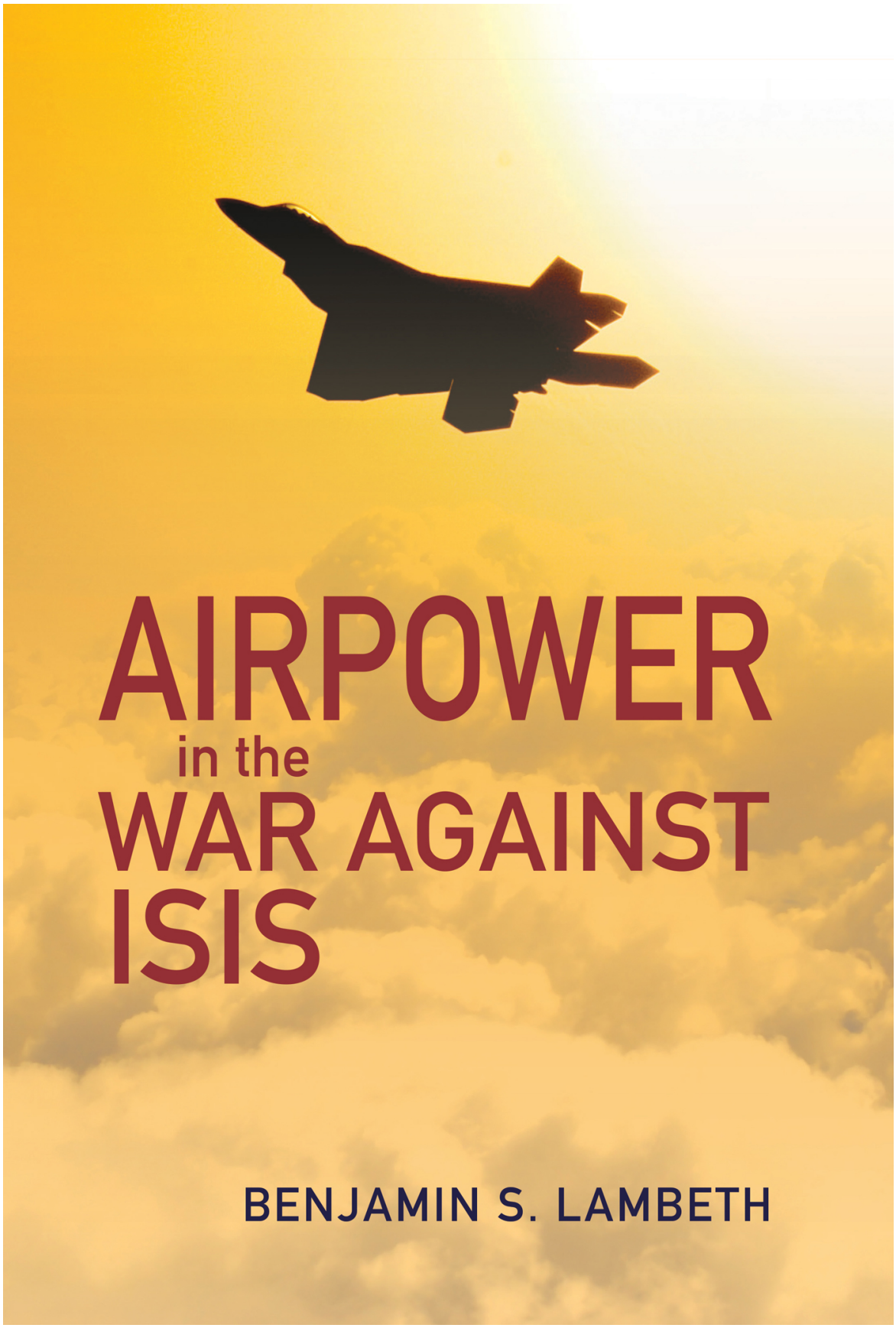
AIRPOWER in the WAR AGAINST ISIS

BENJAMIN S. LAMBETH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AIRPOWER in the WAR AGAINST ISIS

Benjamin S. Lambeth

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FOREWORD

Shortly after the start of American air attacks against the Islamic State in Iraq and Syria (ISIS) on August 8, 2014, it became clear that the effort ordered by President Barack Obama and conducted by U.S. Central Command (CENTCOM) was absent a strategy based on a robust and joint examination of ends, ways, and means. As U.S. military operations unfolded, they were not based on an informed understanding of ISIS as an opponent or in quest of a clearly defined goal on a realistically achievable timetable. Instead, CENTCOM's U.S. Army leaders, by then habituated in the ways of their previous counterinsurgency campaigns in Iraq and Afghanistan, simply launched into a resurrection of a similar game plan. Moreover, the main thrust of CENTCOM's combat effort against ISIS focused on rebuilding and supporting Iraq's failed army as its envisaged key to ultimately prevailing. Virtually no thought was given at the start of Operation Inherent Resolve, as the campaign was belatedly named, to conduct concurrent and sustained strategic attacks against ISIS's most vital centers of gravity in Syria. There also was no consideration of an option designed to fully exploit the strategic potential offered by U.S. and coalition airpower to eradicate the declared Islamist caliphate as quickly as possible. That absence in CENTCOM's initial options planning occurred in part because its air component, by all outward signs, did not effectively argue for such a more promising course of action.

In truth, ISIS was not an insurgency. It was a self-avowed state in the making, possessing many of the unique and targetable characteristics of a state, including coherent leadership, an extensive command and control network, and the beginnings of a well-organized and capable conventional army. In order for it to have been taken down with the greatest possible dispatch, airpower needed to be employed as the campaign's main effort, not simply as aerial fire support for anti-ISIS ground troops. Yet the Obama administration and CENTCOM did not recognize ISIS as an emergent challenge calling for a new strategy aimed at paralyzing its leadership, halting its further expansion throughout the war zone, and eliminating its ability to export terror beyond its sanctuary. Instead, they simply engaged ISIS in a replay of their last war strategies and applied both inappropriate gradualism and oppressively inhibiting rules of engagement for target

attacks that prioritized noncombatant casualty avoidance over the promptest possible mission accomplishment. Those ponderous and needless constraints on the most effective use of U.S. and allied airpower far exceeded the standards of the law of armed conflict. As a result, ISIS fully exploited our nation's commitment to avoiding innocent civilian casualties. The predictable result was an unduly prolonged and costly war, more civilian fatalities incurred as a consequence of ISIS's willful atrocities, and more time made available to ISIS to spread its noxious ideology to more than thirty other countries around the world.

In this important and timely book seasoned air-warfare analyst Ben Lambeth offers a comprehensive review and appraisal of the air contribution to Operation Inherent Resolve in its most important details. In researching the campaign, Ben monitored and documented unfolding events from their very first day onward. Along the way, he elicited and incorporated critical feedback and substantive inputs from many airmen at both the command and execution levels who played key roles in the air war's planning and conduct. In the pages that follow, he explores how the air war evolved and gradually improved in its effectiveness in spite of a misaligned "last war" strategy pursued by CENTCOM with gradualist and minimalist engagement directives from the Obama administration. He also considers whether an alternative approach that treated ISIS as an emergent state rather than as an insurgency and that used airpower as the campaign's main force element rather than simply as support for indigenous ground troops might have achieved U.S. objectives far more rapidly and at far less cost in both allied resources expended and non-combatant lives lost.

In the end, every combat endeavor, whatever its initial motivations and goals, serves an important instructional purpose when considered in hindsight. Sometimes, as in the revealing case of the flawed Operation Rolling Thunder air campaign that was conducted so incompetently by President Lyndon Johnson and Secretary of Defense Robert McNamara against North Vietnam from early 1965 through late 1968, that purpose is to offer an abiding example of how not to do things. Ben's drawing of just such inferences from the similarly flawed gradualism of the faulty strategy that was first pursued in Operation Inherent Resolve may be the single greatest service that he has provided through this assessment. By having so ably dissected the unfolding of CENTCOM's gradualist and ground-centric

strategy against ISIS and its initial suboptimal use of airpower, his observations cast important light on some key questions that all military professionals should be interested in honestly addressing. Notable among them is whether the commendable-in-principle "jointness" as initially envisaged by the landmark Goldwater-Nichols Act of 1986 has, over time, led insidiously to a one-size-fits-all planning approach in which land-centric thinking has come to predominate in American force employment practice. Also notable in this regard is whether such an occurrence may have so bedeviled the U.S. Air Force by the time CENTCOM's war against ISIS began as to have deprived it of its former ability to advocate persuasively for strategies that most fully exploit the strategic leverage offered by modern airpower. Whatever the case, I wholeheartedly commend this study to all who are interested in joint-force operations and in the pivotal role that airpower can play in joint warfare if that role is fully understood and duly applied.

Lt. Gen. David A. Deptula, USAF (Ret.)
Dean, Mitchell Institute for Aerospace Studies

PREFACE

The last American occupation troops left Iraq at the end of 2011 at the express direction of President Barack Obama, who had vowed in a campaign promise three years earlier that he would “end the Iraq war.” For a short time thereafter, most Americans naturally assumed that the nation’s long and costly involvement in that war-torn country was finally over. That feeling of relief, however, was to be only short-lived. Not long after the final departure of the last American military presence in the country, a uniquely malevolent self-avowed Islamic State in Iraq and Syria (ISIS) began arising from the ashes of the recently vanquished al-Qaeda in Iraq (AQI) and soon thereafter swept into the void left by Obama’s premature withdrawal of all remaining U.S. forces, along with the stabilizing influence they had provided for the country’s still-shaky elected regime. Even before becoming firmly entrenched in Iraq, the movement had already spread throughout major portions of neighboring Syria that was by then in the full grip of a raging civil war. ISIS eventually gained such a controlling foothold in both countries that the humanitarian crisis it posed for their civilian populations became suffciently intolerable by early August 2014 that the Obama administration finally concluded that it had no choice but to respond to the movement’s by-then constant depredations with force.

In the end Operation Inherent Resolve, as U.S. Central Command (CENTCOM) finally code-named its more than four-year-long campaign against ISIS, began as an air-only war as far as American combat involvement in it was concerned. It remained so, moreover, throughout its halting and uncertain first year. It was subsequently ramped up considerably in the intensity of coalition bombing and was further facilitated by the eventual forward deployment of U.S. Special Operations Forces (SOF) advisers and joint terminal attack controllers (JTACs) alongside ever more trained and motivated Iraqi and anti-ISIS Syrian ground troops. Those indigenous forces, in turn, eventually went head to head in a succession of determined showdowns against ISIS. In due course, and at a substantial cost in friendly lives lost in those engagements, they finally defeated the hated movement as an effective fighting force, leveraging to the fullest the overwhelming asymmetric advantage they enjoyed from U.S. and coalition airpower.

Yet no one at any level, either in the Obama administration or at CENTCOM, gave much apparent thought before the campaign's start toward undertaking a clean-sheet assessment of ISIS as a freshly arisen regional challenge and then conducting at least the beginnings of a fact-based inventory of its targetable vulnerabilities in both Iraq and Syria before dropping the first bomb. In the absence of any such prior systematic sizing up of ISIS, CENTCOM's four-star U.S. Army commander and the subordinate U.S. Army three-star general he picked to oversee the coming response naturally fell back on their familiar past experiences and habit patterns and misdiagnosed ISIS as simply a resurrected Iraqi insurgency rather than as the ambitiously aggressive would-be state in the making that it actually was. As a result, as this book argues in detail, CENTCOM launched headlong into planning and conducting a misconceived counterinsurgency war against ISIS that misprioritized rebuilding the Iraqi army as the campaign's first concern rather than opting for a more appropriate starting-out approach aimed simultaneously at attacking the heart of the enemy's center of gravity in Syria from the campaign's first moments onward.

Thanks to that suboptimal choice of a going-in strategy, this book further argues, American and coalition airpower was, for far too long, both underused and misapplied by being held back in a mostly supporting role for still largely noncombat-ready Iraqi ground troops throughout the effort's first year. In the end, to be sure, Operation Inherent Resolve succeeded without question in deconstructing and ultimately destroying the would-be ISIS caliphate in both countries. However, owing to its initial missteps in campaign framing and planning, the war ended up costing far more and taking upward of two years longer than it probably needed to. It also most likely occasioned more innocent Iraqi and Syrian civilian lives lost, the vast majority at the hands of ISIS jihadists rather than from errant coalition bombs, than probably would have been incurred by a more fitting and determined strategy that sought to eradicate the enemy as an effective fighting force as quickly as possible through a well-targeted air interdiction effort from the campaign's very start.

This appraisal, written under the auspices of the Mitchell Institute for Aerospace Studies, chronicles and assesses that U.S.-led air war from its reluctant start in August 2014 through the conclusion of its major combat

phase in early 2019. It is the author's latest contribution to a succession of air campaign analyses starting with his assessment of NATO's air war for Kosovo in 1999 and including his studies of the subsequent U.S.-led air offensives over Afghanistan and Iraq in late 2001 and early 2003, all aimed collectively at offering an in-depth overview of American airpower's steady maturation since its landmark transformational performance during Operation Desert Storm in 1991.

ACKNOWLEDGMENTS

This book has profited enormously from helpful inputs I have received from many individuals who were either personally involved in the planning and conduct of Operation Inherent Resolve (OIR) or who otherwise had informed comments and suggestions to offer toward further enriching earlier versions of it. For his initial encouragement and vetting of an op-ed article I wrote less than a year into the pursuit of OIR that provided the main springboard for this study ("Put Airpower to the Test: The U.S. Is Squandering Its Edge over the Islamic State," *Washington Post*, March 6, 2015), I am grateful to the U.S. Air Force's chief of staff at the time, Gen. Mark Welsh III. I am also indebted to Col. John Andreas Olsen of the Royal Norwegian Air Force for having offered me a chance to include the first portion of this assessment while OIR was still seeking its direction and footing in a chapter titled "American and NATO Airpower Applied: From Deny Flight to Inherent Resolve" in his edited compendium *Airpower Applied: U.S., NATO, and Israeli Combat Experience* (Naval Institute Press, 2017). In addition, I am much beholden to my longtime friend and fellow airpower comrade in arms Lt. Gen. David Deptula, USAF (Ret.), now dean of the Mitchell Institute for Aerospace Studies, for having invited me to speak on this topic at a Mitchell Institute Aerospace Forum, "Striking ISIS and Beyond," held in New York City on May 12, 2015, as well as for his many helpful comments on several earlier iterations of this study.

Likewise, I wish to thank Professor Phillips O'Brien for inviting me to share the interim results of the research reported herein during a conference he organized and chaired, "The Present and Future of Airpower," sponsored by the Institute for the Study of War and Strategy at the University of St. Andrews in Scotland on May 8, 2018. I also wish to thank Air Commodore Frans Osinga, Royal Netherlands Air Force, for inviting me to deliver essentially the same remarks at a conference, "The Rise and Fall of ISIS," jointly sponsored by the University of Amsterdam and the Netherlands Defence Academy in Amsterdam, Netherlands, on September 26, 2018. In between those two events, I had a productive roundtable discussion regarding some key themes developed in this study at Air University's Curtis E. LeMay Center for Doctrine Development and Education at Maxwell Air Force Base, Alabama, on August 9, 2018, with Lt. Gen. Allen

Peck, USAF (Ret.), former commander of Air University; Col. Lisle Babcock, USAF, the LeMay Center's director for doctrine development; and Col. Stephen Renner, USAF, an A-10 pilot and professor at Air University's School of Advanced Air and Space Studies who had just returned from a six-month temporary deployment as the deputy head of the Joint Air Component Coordination Element (JACCE) to Combined Joint Task Force Operation Inherent Resolve (CJTF-OIR) during the campaign's eventually successful endgame.

Among additional readers who were key players in OIR at both the planning and execution levels, I wish first to thank Gen. Charles Q. Brown Jr., USAF, now the confirmed next USAF chief of staff, who served for a year starting in mid-2015 as the second of three successive air component commanders for OIR just as the war against ISIS was beginning to hit its stride. General Brown kindly offered several insightful first-hand reactions to various earlier drafts of this study, as did his former Combat Plans Division chief in CENTCOM's Combined Air Operations Center (CAOC) at al-Udeid Air Base in Qatar, Col. Jason Rueschhoff, USAF.

For their helpful reactions to earlier drafts of this book, I owe thanks as well to others who were in the campaign's oversight and execution loop, including Brett McGurk, the former special presidential envoy for the global coalition to counter the Islamic State; Vice Adm. Mark Fox, USN (Ret.), CENTCOM's vice commander at the start of OIR; Gen. Jeffrey Harrigian, USAF, CENTCOM's third air component commander who saw the air war to its ultimately successful conclusion; Lt. Gen. Jeffrey Lofgren, USAF, CENTCOM's deputy air component commander when OIR began in early August 2014; Lt. Gen. Bob Otto, USAF (Ret.), the USAF's deputy chief of staff for intelligence, surveillance, and reconnaissance during the initial round of OIR; Maj. Gen. Peter Gersten, Maj. Gen. Scott Kindsvater, and Maj. Gen. Dirk Smith, USAF, successive deputy commanders for operations and intelligence for CJTF-OIR from May 2015 to May 2018; Maj. Gen. Charles Corcoran, USAF, chief of staff to the commander of U.S. Air Forces Central Command when OIR began in August 2014 and later commander of the 380th Air Expeditionary Wing flying the F-22 stealth fighter over Iraq and Syria from July 2016 to July 2017; Maj. Gen. Charles Moore Jr., USAF, chief of security assistance in the Office of Security Cooperation-Iraq (OSC-I) and then deputy chief of OSC-I from March

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I also owe thanks to more than a few other friends, associates, and expert witnesses who offered invaluable reactions to various earlier iterations of this book, including the Honorable Donald Rice and Michael Wynne, former secretaries of the Air Force; Gen. Ronald Fogleman, USAF (Ret.), Gen. John Jumper, USAF (Ret.), Gen. T. Michael Moseley, USAF (Ret.), and Gen. Mark Welsh III, USAF (Ret.), former U.S. Air Force chiefs of staff; Gen. Charles Horner, USAF (Ret.), air component commander for Operation Desert Storm in 1991 and later commander, U.S. Space Command; Gen. John Shaud, USAF (Ret.), former executive director of the Air Force Association and later director of the Air Force Research Institute at Maxwell AFB, Alabama; Gen. John Corley, USAF (Ret.), former commander of Air Combat Command; Air Marshal Ray Funnell, RAAF (Ret.), former Chief of Air Force of the RAAF; Maj. Gen. Charles Link, USAF (Ret.), former planner in a succession of senior Air Staff positions in the Pentagon; Richard Hallion, former U.S. Air Force historian;John Correll, former editor of Air *Force Magazine;* Col. Rob Owen (Ret.) and Col. Phillip Meilinger, USAF (Ret.), former commandants of the School of Advanced Air and Space Studies; Paul Springer, chairman of the Department of Research at Air Command and Staff College; Col. Mark Gunzinger, USAF (Ret.), formerly with the Center for Strategic and

Budgetary Assessments and now with the Mitchell Institute for Aerospace Studies; Mark Clodfelter, professor of military strategy at the National War College; and Sanu Kainikara, a former Indian Air Force fighter pilot now with the RAAF's Air Power Development Centre in Canberra, Australia.

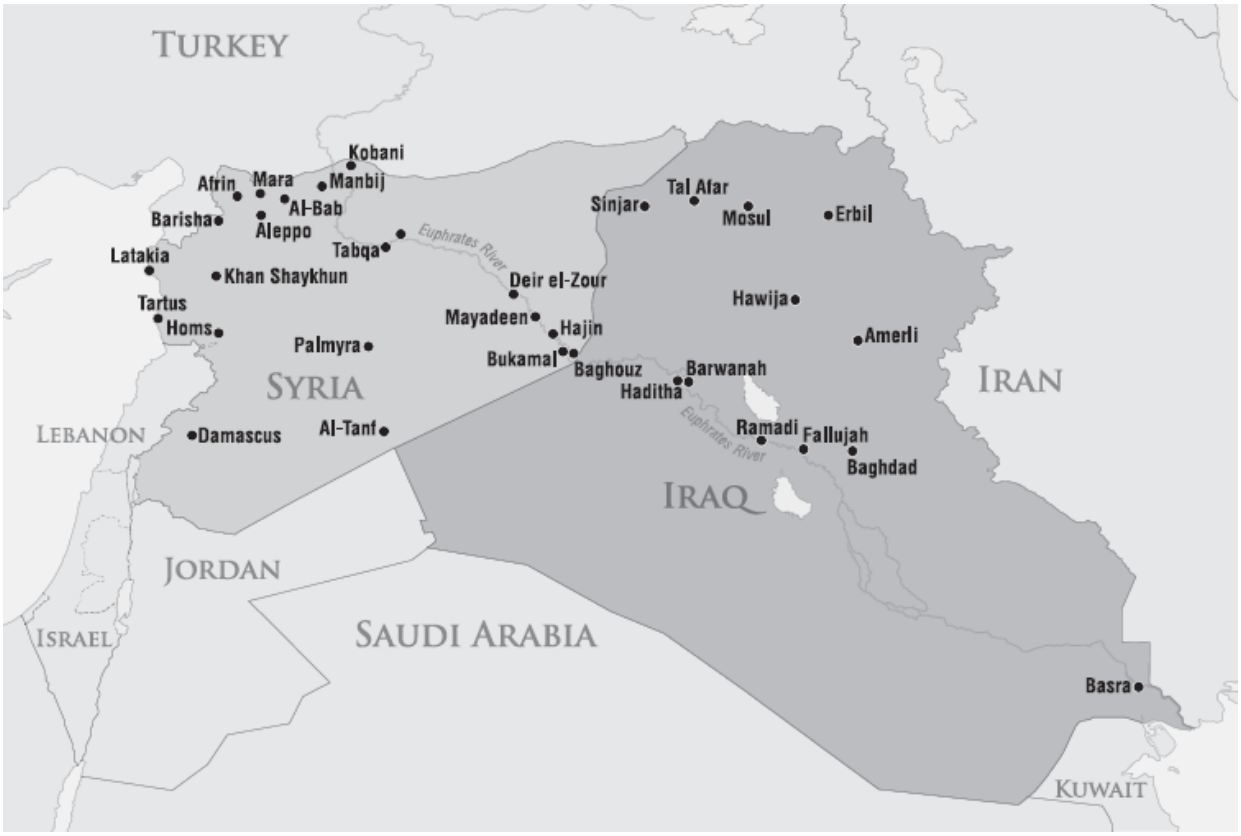
Last but not least, I am pleased as well to thank Zaur Eylanbekov, creative director at the Air Force Association, for his help with preparing my photo gallery and graphics, and my able editor, Patti Bower, for her unfailing diligence in keeping me honest with proper word use and punctuation.

As always, having duly exploited to the fullest all of this indispensable good help, I must add that responsibility for any errors of fact or interpretation, sins of omission, or other failings that may remain in the pages that follow is mine alone.

ABBREVIATIONS

AFCENT	U.S. Air Force Central Command
AMRAAM	advanced medium-range air-to-air missile
AOR	area of responsibility
AQI	al-Qaeda in Iraq
ASR	air support request
AWACS	airborne warning and control system
BIAP	Baghdad International Airport
CAOC	Combined Air Operations Center
CAP	combat air patrol
CAS	close air support
CENTCOM	U.S. Central Command
CFACC	Combined Force Air Component Commander
CJOC-B	Combined Joint Operations Center Baghdad
CJOC-E	Combined Joint Operations Center Erbil
CJTF-OIR	Combined Joint Task Force Operation Inherent Resolve
COIN	counterinsurgency
CRF	Contingency Response Force
CTS	Iraqi Counter-Terrorism Service
DIUx	Defense Innovation Unit Experimental
DT	deliberate targeting
FLOT	forward line of friendly troops
FMV	full-motion video
FSA	Free Syrian Army
FSCL	fire support coordination line
GLONASS	global navigation satellite system
GPS	Global Positioning System
IADS	integrated air defense system
IFAC	Iraqi forward air controller
ISF	Iraqi Security Forces

ISIL	Islamic State in Iraq and the Levant
ISIS	Islamic State in Iraq and Syria
ISR	intelligence, surveillance, and reconnaissance
JACCE	Joint Air Component Coordination Element
JAG	Judge Advocate General
JCS	Joint Chiefs of Staff
JDAM	joint direct attack munition
JTAC	joint terminal attack controller
JTF	Joint Task Force
JTP	joint targeting process
LOAC	law of armed conflict
NATO	North Atlantic Treaty Organization
OIR	Operation Inherent Resolve
PGM	precision-guided munition
QDR	Quadrennial Defense Review
ROE	rules of engagement
RPA	remotely piloted aircraft
RuAF	Russian Air Force
SDF	Syrian Democratic Forces
SOF	Special Operations Forces
TEA	target engagement authority
TLAM	Tomahawk land-attack missile



CENTCOM's Operating Area for OIR. *Zaur Eylanbekov*

Introduction

At the end of 2011, as he had long sworn to do, President Barack Obama withdrew the last remaining U.S. troops from Iraq. The troops had been an effective stabilizing presence there over nine years of slowly improving recovery from the country's near-devastating insurgency following the three-week-long U.S.-led invasion in early 2003 that finally toppled Saddam Hussein and his regime. Yet, less than three years later, the United States found itself saddled with a new war in the region, this time not just in Iraq but also in neighboring Syria. This latest regional fight was against the self-proclaimed Islamic State in Iraq and Syria (ISIS), a uniquely abhorrent jihadist movement that first arose in the ungoverned spaces that had opened up in Syria in 2012 as a result of the steadily intensifying Syrian civil war. That festering unrest, for its part, had been unleashed by the turmoil of the so-called Arab Spring that had spread like wildfire across North Africa and into the Middle East the year before. Not long thereafter, ISIS grew rapidly from merely a few hundred well-organized Sunni irredentists into more than 30,000 case-hardened Islamist fundamentalists. It then sunk its noxious roots into significant portions of both countries by exploiting the power vacuum that had been created by Obama's peremptory removal of the last remaining U.S. force contingent that had hitherto helped to suppress any resurrection of the recently defeated Sunni insurgency in post-Saddam Iraq.

The U. S.-led effort to oppose ISIS that ultimately ensued was slow even to begin, let alone show any significant progress at first. It took the sudden seizure of Iraq's second-largest city of Mosul by well-armed ISIS invaders in early June 2014 to prompt the first serious U.S. governmental attempt to spur the Obama administration into an appropriate response. That prod occurred when the chairman of the U. S. House of Representatives' Permanent Select Committee on Intelligence, Rep. Mike Rogers (R-Mich.), declared that the situation in Iraq had become "as dangerous as it gets" and urged the administration to reach out to the nation's Arab partners in an effort to stem the relentless advance of ISIS.[1] Obama repeated his long-standing refrain that he would not authorize any return of U.S. troops to Iraq, but he did leave open the alternative possibility of lesser military

measures, at which point the U.S. Navy sent the aircraft carrier USS *George H. W. Bush* into the Arabian Gulf as a contingency measure.

In a related anticipatory move, less than a week after ISIS seized Mosul, the commander of U.S. Central Command (CENTCOM), Gen. Lloyd Austin III, USA, dispatched a modest Contingency Response Force (CRF) to represent his combatant command in Baghdad, with an assigned cadre of personnel from all four U.S. services deployed forward to provide an initial renewed American military presence in Iraq.[2] By express White House decree, the CRF's limited and sole purpose was to defend the U.S. Embassy and the nearby Baghdad International Airport (BIAP). President Obama stressed once again that he would *not* be reinitiating combat operations in Iraq, and he authorized only a small U.S. military presence in the country for that declared purpose, capped at a maximum of just three hundred uniformed staffers.[3] To head up that limited presence, Maj. Gen. Dana Pittard, USA, the deputy commanding general for operations of CENTCOM's Third Army stationed in Kuwait, was assigned by General Austin to become the Joint Force Land Component Commander for Iraq. General Pittard moved quickly to establish within the U.S. Embassy compound in Baghdad both his forward headquarters and the first assigned strike cell for overseeing any U.S. and coalition air attacks against ISIS that might be yet to come.[4]

Even though CENTCOM's small CRF team later sequestered at BIAP had been experiencing recurrent rocket attacks by ISIS jihadists, the Obama administration had still not approved any renewed combat use of American airpower over Baghdad, even in defense of the recently fielded U.S. military presence there. Maj. Greg Balzhiser, a U.S. Air Force F-16 pilot deployed to the region as a captain at the time, later recalled that this unnerving situation "was one of our own making. I flew many eight-hour sorties over Baghdad in late June and early July 2014 just watching all of this happen while talking to the members of the CRF. There were F-16s overhead 24/7 with weapons to help."[5] General Pittard later recalled that frustration in a lively coauthored memoir of his experiences during the first phase of CENTCOM's eventual war against ISIS: "Our guys were on their own in Baghdad, handcuffed by politics and bureaucrats in Washington. None of us considered that we would ever be placed in such a precarious situation by our government and military leadership."[6] As for what lay

behind that dismaying reality, he added: “There was just no palate in Washington for combat operations in Iraq.”[7] On the contrary, he wrote, despite his repeated requests at least for appropriately qualified members of his team to accompany Iraqi troops in their forays against ISIS jihadists in defense of Iraq’s capital, “Washington and the president wouldn’t have any of it. [Our] mission in Iraq remained solely to advise and assist—we were not to accompany [Iraqi] ground forces in offensive operations against ISIS nor to conduct air strikes in support of the Iraqis.”[8]

Eventually, however, as well-armed ISIS combatants began advancing ever more aggressively toward the city of Erbil in northern Iraq a month later starting in early July, General Pittard recalled:

> I told General Austin that we could hardly stand by and watch as ISIS took over another major city, especially the Kurdish capital. He agreed with me, but he needed to get the authorization for air strikes from President Obama…. Within hours, President Obama authorized us to protect Erbil. However, his administration issued very restrictive guidance: We could conduct air strikes to protect Erbil but nowhere else in Iraq. It was not quite the green light I wanted, but it was at least a step in the right direction. We finally had the opportunity we’d been waiting for—the chance to strike lethally at ISIS.[9]

In the end, the Obama administration’s first combat response to the manifold abuses that the jihadists had inflicted on hapless innocents throughout the portions of Iraq that they had initially taken in 2012 occurred only belatedly, two years thereafter, on August 8, 2014, with highly limited air strikes against just a few ISIS fighting positions in the northernmost portion of the country surrounding Erbil, where the American consulate and a substantial U.S. diplomatic presence were located. In announcing those impending attacks the day before, President Obama made a special point to characterize them *not* as the opening round of any serious and sustained effort by his administration to defang the new and vibrant Islamist movement once and for all but simply as a more narrowly focused one-off response prompted by a single event intended to “protect … American personnel” in the U.S. consulate in Erbil and as “a humanitarian effort to save thousands of civilians … trapped on a mountain without food and water.”[10]

The limited air attacks that occurred the next day were conducted by U.S. Navy F/A-18 strike fighters operating from the aircraft carrier USS *George H. W. Bush* and delivering five-hundred-pound precision-guided bombs, along with U.S. Air Force MQ-1 Predator remotely piloted aircraft firing AGM-114 Hellfire antitank missiles, against confirmed ISIS artillery positions and support convoys along the approaches to Erbil. Those carefully measured attacks on targets geolocated by MQ-1s and called in by U.S. Air Force Tactical Air Control Party and Combat Control Team joint terminal attack controllers (JTACs) were intended solely to turn back an imminent ISIS advance on the city, with four more night strikes the next day, also supported by U.S. Special Operations Forces (SOF) teams and two MQ-1s, intended to break the siege that the jihadists had imposed on tens of thousands of Yazidi refugees who had been stranded on Sinjar Mountain one hundred miles to the west in the wake of the assault.[11] In support of that relief effort, U.S. Air Force C-17 airlifters flew nine missions and C-130s flew another sixteen over the course of seven successive nights, dropping nearly 35,000 gallons of potable water and more than 114,000 Islamic law–compliant meals, ready-to-eat, on Sinjar.[12] The following week further air strikes against selected ISIS positions, with the largely uncoordinated backing of indigenous Iraqi Kurdish Peshmerga combatants on the ground, finally allowed as many as 45,000 of the refugees to be evacuated from the mountain and returned to their homes.[13]

Captain Balzhiser was a key player in those initial strikes to relieve the stranded Yazidis. As he recalled after the first of the strikes in a reflective journal that he kept:

> We finally dropped late on the 11th [of August]…. The situation on Sinjar Mountain finally drove us [the United States] to do something. All of the watching and waiting finally culminated in the past few days. Still unsure how to feel…. It seems like our limited application of force isn't enough…. We saw the thousands of abandoned cars on the roads going out of Sinjar into the mountains. It was a little overwhelming. Seeing the suffering there vindicates my involvement, but I still wonder what drives ISIS to treat people the way they do. How is there still room for medieval thinking like that?[14]

Those initial strikes, taken together, constituted the first American use of kinetic airpower in Iraq since the departure of the last U.S. troops from the country nearly three years before. In underscoring their highly limited nature and intent, the chief spokesman for the Joint Chiefs of Staff, Rear Adm. John Kirby, USN, stressed to reporters the administration's now-established line with regard to them: "This is a focused effort, not a wider air campaign."[15] Admiral Kirby struck a similar note the following month when U.S. combat aircraft also began striking ISIS targets near the Kurdish town of Kobani on the Syrian–Turkish border, which the jihadist movement had previously besieged in mid-September: "This is going to be a long struggle. This group [ISIS] will adapt, and we're going to have to adapt right along with them. And [with] airstrikes alone, you're just not going to bomb them away. It's not going to happen like that."[16]

In looking back on the initial bombing of the jihadist forces threatening Erbil and its immediate environs, however, General Pittard later remarked that in his personal opinion, besieging the innocent Yazidis on Sinjar was "a strategic mistake by ISIS. It resulted in President Obama finally authorizing air strikes beyond the [immediate environs of Erbil]…. Once we received [that] updated authority from the president, the special operations task force near Erbil quickly stood up a small but deadly strike cell…. Their barrages of air strikes combined with counterassaults by Kurdish Peshmerga forces finally helped break ISIS's hold in the Sinjar region." Soon thereafter, he added, follow-on U.S. air attacks began regularly "destroying ISIS forces in the region—hitting convoy after convoy of armored Humvees and other tactical vehicles that ISIS had captured from Iraqi and Kurdish military forces in their previous victories."[17]

After that reluctant and initially halting start, this latest U.S.-led air offensive continued to play itself out for more than a year in its by-then all-too-familiar half-hearted way, with a persistent absence of any apparent seriousness of purpose among the administration's most senior civilian leaders when viewed against the backdrop of earlier American air offensives going back to Operation Desert Storm in 1991. In bearing authoritative witness to that assessment and judgment, Captain Balzhiser, who flew daily F-16 sorties over Baghdad during the effort's initial months, later recalled that that first phase of the campaign

> was a very confusing time. Sometimes we went after ISIS targets vigorously, but more often than not we simply just watched. The absence of a desired end-state was apparent in our tactical execution…. One day we'd show up and hit a truck or fighting position, then the next day we'd go to the same place and just watch. It was also clear that strikes were being approved at very high levels, given the amount of time it took to get a weapon release green-lighted. I remember watching a [former Soviet] ZSU-23-4 [antiaircraft artillery] turret shooting at Iraqis from the back of a Ford 250 truck in the town of Barwanah for close to three hours before we received approval from the Baghdad strike cell to drop one weapon on it.

Expanding further on his frustration, he added: "The JTACs were working very hard at getting us to the right places to strike, as well as for approvals. I think the combined JTAC-fighter pilot team was hampered by the national leadership. The lethargic pace was not for lack of effort on the tactical operators' part, that's for sure. We also could have been using our bombs to attack strategic targets at ISIS's centers of gravity at this juncture provided we could generate the targets."[18]

In a subsequent amplification in his personal journal on his initially hampered attack on the improvised truck-mounted ZSU-23-4, Captain Balzhiser wrote that

> in the three hours it took to get permission, we could've killed the target several times with no collateral-damage issues. It took so long that the truck hid in a car port and didn't budge for two hours. While waiting for it to move, we received our nine-line [JTAC attack-parameter briefing via radio voice transmission] for striking it and subsequently were extended for an hour for that purpose…. As our extension expired, the mortars stopped and the truck bolted. We followed it through town…. We were worried that the strike would be called off…. I was arguing with the SOF duty officer over the radio to extend our vul [vulnerability time in the target area]. He directed us to RTB [return to base], so I just ignored him. … I told the JTAC that I had a 54 [GBU-54 laser-aided 500-lb joint direct attack munition, or JDAM] available and that I recommended using it, but he said that they had "already

> briefed to the leadership that the attack would be with a 12 [GBU-12 Paveway II 500-lb laser-guided bomb], so stick with that." Vietnam all over again—some general is picking bombs and not letting the pilot make the best tactical decision…. I had my [targeting] pod on the ZSU. I couldn't see it in TV [electro-optical mode], so I had to use IR [my infrared sensor]. The hot gun barrels were very easy to see. Drove out about seven miles, did my checks, armed up, and turned in. Released the GBU-12 CCRP [in continuously computed release-point mode] at about five miles—I was really hauling—then checked [made an adjustment turn] and put my laser on the cab side of the gun turret…. My weapon impacted directly on my laser spot and ripped the truck/turret in half. The fuel and ammunition cooked off, and soon what was once a truck with an AAA [triple-A antiaircraft artillery] turret was just an inferno of twisted metal…. By the time we landed, it had been a nine-hour sortie.[19]

True enough, this slow-motion effort at first finally did see an encouraging and fortunately sustained uptick in its initially anemic pace, so well captured in Captain Balzhiser's anecdote above, starting almost a year later in mid-2015, thanks in considerable part to an accumulation of ever more egregious terrorist outrages against innocent civilians committed in close succession both in the immediate region and beyond, either by ISIS directly or by local Islamists acting in its name, that the Obama administration could no longer ignore. Yet, despite that long-overdue increase in the intensity of daily air attacks after more than a year of manifest slow-walking of the air war, and despite a determination on the part of the administration's newly installed secretary of defense, Ashton Carter, to go after more significant enemy targets, the effort continued to show scant progress from an overall campaign perspective as well as a continued lack of any apparent underlying strategy aimed at achieving a clearly defined endstate on a realistic timetable as long as President Obama remained in office.

With the unexpected election of Donald Trump as Obama's successor on November 8, 2016, the prospects for an increase in the air war's effectiveness took a pronounced upturn almost immediately. Trump had campaigned hard on a promise to ramp up significantly the nation's long-

hesitant counteroffensive against ISIS, which by that time had been conducted at a remarkably high cost in the number of combat and combat-support sorties flown by U.S. and coalition aircraft, expensive precision munitions expended in the multiples of thousands, and billions of dollars spent to sustain the effort, yet with few significant gains to show for it toward actually extirpating ISIS once and for all even more than two years after the bombing first began. In clear testimony to that high cost for so little strategic gain, CENTCOM reported at the end of July 2016, two years into its still-desultory effort, that the total cost of that endeavor had been $8.7 billion to date, averaging to a cost of $12.1 million a day over 724 days and with an estimated U.S. and coalition conduct of 111,410 aircraft sorties in all.[20]

To be sure, those in the actual planning and execution hierarchy—from the Office of the Secretary of Defense and Joint Staff through CENTCOM and even down to the most closely involved commanders deployed forward in the war zone—eventually made major moves during this period to increase the intensity and effectiveness of the bombing independent of any top-down administration political direction and guidance. That said, however, the overall campaign from a strategic perspective seemed largely to be simply marking time rather than registering much significant battlefield progress. No doubt mindful of that still largely stalled effort, Trump swore two months before his election that upon assuming office, he would "convene [his] top generals and give them a simple instruction: They will have thirty days to submit to the Oval Office a plan for defeating ISIS."[21]

True to that promise, more than a month before Trump's inauguration, senior planners in the Department of Defense were already deeply immersed in drafting proposals aimed at reassessing the air war's highly restrictive rules of engagement (ROE), and they had already granted a devolution of greater decision-making authority for target-attack approvals down from the requirement for a general officer to clear each and every strike to those cognizant operators in the forward area who were closest to the fight and who accordingly had the best-informed real-time situation awareness. In a high-level validation of that effort, the president-elect's first choice to be his national security adviser, Lt. Gen. Michael Flynn, USA (Ret.), told reporters that the incoming administration intended to conduct a

full review of the options available to the defense establishment to oversee and approve all operations against ISIS henceforth.[22] After having been sworn in and duly empowered as commander in chief on January 20, 2017, President Trump promptly put his White House staff to work on a presidential directive instructing his just-confirmed secretary of defense, Gen. James Mattis, USMC (Ret.), to develop and submit a concrete plan for intensifying the nation's effort against ISIS, to include broadening the use of U.S. SOF teams and JTACs on the ground and increasing the pace of the coalition's aerial attacks against enemy strongholds and key strategic assets in both Iraq and Syria.[23]

Within the span of just a little more than a year, thanks in considerable part to the initiatives that had been put into place by the new administration to further strengthen the campaign's approach, what remained of the would-be Islamist caliphate in Iraq and Syria was finally declared by CENTCOM toward the end of 2018 to have been decisively crushed, for all intents and purposes. The more robust approach that was finally developed and implemented by the new administration included clarifying the avowed goal of the nation's counter-ISIS effort, for the first time finally nearing the dimensions of a full-fledged military campaign, from simply the amorphous avowed "degrading and ultimately defeating" of the jihadist movement to dismantling it decisively, and as rapidly as all reasonable force-employment measures might allow for. As the nation's newly elected commander in chief, President Trump gave the overall go-ahead for this intensified effort in principle, and Secretary Mattis oversaw its actual planning and execution in all needed strategic and operational detail.

After considering the issues at hand, Mattis chose to retain the Obama administration's long-imposed ROE, stressing the criticality of avoiding civilian fatalities in the course of the coalition's strike operations. As the Pentagon's new chief put it, "there has been no change to our continued extraordinary efforts to avoid innocent civilian casualties." However, regarding the more overarching intensification of fighting that was now imminent, Mattis added that President Trump had "made the decision … [and] we … executed it for an accelerated campaign. No longer will we have slow decision cycles because Washington, D.C., has to authorize tactical movements on the ground." Instead, said Mattis, the president had "delegated authority to the right level to aggressively and in a timely

manner move against enemy vulnerabilities."[24] Equally important, Mattis added, he had "directed a tactical shift [that stressed] surrounding the enemy in their strongholds so we can annihilate ISIS."[25]

In fairly short order, that more determined approach put into effect by the new administration decisively ended the "creeping incrementalism" and associated "failure to use decisive force" that had characterized the previous administration's approach, as it was later so well described by Washington defense analyst Anthony Cordesman, both of which finally occurred "as the result of [the Trump administration's] overcoming a long series of unnecessary mistakes."[26] Within six months, by mid-July 2017, Iraq's second-largest city, Mosul—where the jihadist movement's leader and ideological fountainhead, Abu Bakr al-Baghdadi, had first heralded the creation of his proclaimed caliphate from the city's Grand Mosque of al-Nuri on June 29, 2014—was finally declared to have been freed from ISIS control by the now-reconstituted and further strengthened Iraqi Security Forces (ISF), with the indispensable enabling support provided for engaging ISIS targets with precision standoff attacks by the coalition's ample air assets.[27] The following October 20, after several months of similar preparatory air strikes by the coalition that had begun the previous June, the indigenous Syrian Democratic Forces (SDF) opposing the regime of Syria's president, Bashar al-Assad, likewise announced the long-awaited liberation of Raqqa, the avowed capital and last-stand holdout of the would-be ISIS caliphate.[28]

Although CENTCOM was not yet quite ready to call it formally over, its more than four-year-long war against ISIS that was launched in early August 2014 turned out, in the end, to have been another American and coalition success story made possible largely by U.S.-led airpower, which was unquestionably the deciding factor in providing an essential asymmetric edge to those ISF, SDF, and Kurdish troops who conducted the brunt of hard fighting on the ground. It was that indispensable force element working in and through the vertical dimension that finally enabled both of those indigenous forces, with the pivotal help provided by eventually embedded U.S. SOF teams and JTACs, to liberate Mosul and Raqqa in close succession and ultimately to strangle the would-be ISIS caliphate in its cradle. As CENTCOM's third successive air component commander for the war, Lt. Gen.Jeffrey Harrigian, USAF, later explained that achievement,

the coalition's campaign to destroy ISIS, once finally unburdened of its initial shackles, "ushered in a new approach" in which "ever-present coalition air forces … [worked with] local partners who were supported by a small footprint of coalition conventional and special operations ground troops," in much the same way that CENTCOM had successfully planned and conducted the far briefer major combat phase of Operation Enduring Freedom against the Taliban and al-Qaeda in Afghanistan from early October through mid-December 2001.[29]

That said, however, in close and unfortunate association with the earlier flawed American combat experience in Vietnam from 1965 to 1973, and yet again with the ultimately successful but also flawed seventy-eight-day air war for Kosovo conducted by the North Atlantic Treaty Organization (NATO) in 1999, Operation Inherent Resolve, the code name that CENTCOM finally assigned to its anti-ISIS campaign, would also find an enduring place in the annals of military history as having been yet another case of the early *misuse* of airpower, which for more than a year reflected both poorly and unfairly on the highly refined and proven American air posture, thanks to the Obama administration's unproductive gradualism and misplaced targeting emphasis that had made it appear so inconsequential until its more determined use began during the campaign's finally ramped-up endgame. As an editorial comment in *The Wall Street Journal* later remarked on this point, "the tragedy [of Operation Inherent Resolve] is that it took so long. President Obama … didn't want to admit that he had to reintervene in Iraq after having pulled out *in toto* in 2011."[30] Had it not been for the accelerated pace and increased weight of effort finally introduced into the campaign by Obama's elected successor at the start of 2017, the excessively protracted U.S.-led flail against ISIS that began ever so haltingly during Obama's watch in early August 2014 might still be under way in the hands of a different administration with no clear end in sight to this day.

To be sure, throughout it all, the combat performance of the American and coalition aircrews who conducted the campaign at the execution level was invariably able and effective, and that performance well reflected the high standards of operator competence and professionalism that were first so tellingly displayed in Operation Desert Storm in 1991 and later sustained in all subsequent U.S.-led air operations worldwide. Yet, by having wrongly

assessed ISIS as just a reenergized regional insurgency rather than as the emerging proto-state that it actually was, and by having also wrongly applied to it excessively exacting ROE appropriate to winning indigenous hearts and minds in a counterinsurgency endeavor rather than by attacking the jihadist movement as aggressively as possible in its most vulnerable centers of gravity from the very start, the Obama administration and CENTCOM arguably prolonged the campaign by as much as two years or more. Major Balzhiser, who flew repeated combat sorties against ISIS during those early days, later reflected on this point: “We could have been stopping this in early 2014 if we’d had the will and saw what was happening without the blinders of the previous decade on.”[31]

In addition, leaving aside the exorbitant operations and sustainment costs that were incurred by those ill-founded decisions, those two bureaucratic entities at the top of the war’s planning and oversight hierarchy were also most likely responsible for occasioning far more civilian fatalities in Iraq and Syria—and through the willful malice of ISIS rather than due to any unseemly profusion of errant coalition bombs—than a more determined and decisive course of action would have produced. Because of that ill-conceived launch and misdirected initial combat phase, CENTCOM and its civilian overseers in Washington took as long to put away a fairly tractable low-technology enemy in the relatively bounded spaces of Iraq and Syria during the second decade of the twenty-first century as it took the United States, with a long roster of existentially threatened allies in a total war for ultimate stakes, to defeat the vastly more powerful Imperial Japan and Nazi Germany in two major theaters on opposite sides of the globe in World War II.

America's Air Posture before Inherent Resolve

Because CENTCOM's air component was so slow to rise to its fullest potential in contributing decisively to the war against ISIS, it might help to provide some pertinent background and context to that less-than-ideal start by first reviewing the main elements of American airpower's initial achievements and subsequent setbacks during the eventful thirteen years that preceded that latest campaign. Such a prefatory stocktaking will give us an opportunity to recall both American airpower's truly transformational gains during the first decade of that experience and the tribulations it then encountered during the second decade and beyond as the nation's most pressing regional challenges suddenly shifted from periodic bouts of high-intensity but also fairly short-duration air-centric wars to lower-intensity but also more open-ended, land-centric counter-insurgency (COIN) embroilments.

By far the greatest portion of the initial transformation in American airpower's combat clout took place during the late 1970s and 1980s after the nation had extricated itself from Vietnam, when a synergistic combination of breakthrough developments in the realms of stealth, precision strike capability, and enhanced battlespace awareness, all further enhanced by unprecedentedly rigorous and realistic aircrew training, gave that posture a radically improved roster of conventional force employment options. Those newly acquired options included, most notably, the ability to seize the initiative from the earliest moments of a conflict and then to set the conditions for achieving a campaign's overall objectives with the least loss of friendly life and national treasure.[1] Without question, they were the main factors that accounted for the allied coalition's surprisingly easy win against Iraqi forces during Operation Desert Storm in 1991.

Transformed Airpower's Triumphant Early Years

By any measure, the role played by U.S. and coalition airpower in shaping the progress of the 1991 Persian Gulf War reflected a major improvement in the effectiveness of the nation's combat air arm after a promising start in World War II and more than three years of misuse in the Rolling Thunder bombing campaign against North Vietnam from 1965 to 1968. The allied

coalition's rapid attainment of uncontested control of the air over Iraq and what that attainment allowed American and allied air assets to achieve afterward by way of enabling the promptest attainment of the coalition's objectives on the ground made for a resounding testament to the final coming of age of modern airpower. Before the start of combat, there had been rampant uncertainty as to whether the planned air attacks would swing the outcome without the need for a major slugfest on the ground and whether the coalition would emerge without sustaining substantial losses in men and materiel. In that regard, it is mostly forgotten by now that more than 20,000 body bags were shipped to the war zone by CENTCOM as a contingency measure against the worst case before the start of formal combat. Yet, once the fight was on, there was no denying the determining effect that the initial air offensive had in shaping the campaign's subsequent course and outcome.

During the war's highly eventful and productive first three days, the coalition's air component systematically struck at the entire spectrum of Iraq's military assets, gaining uncontested control of the air and freedom to operate with near impunity against Iraq's airfields, fielded ground forces, and other targets of greatest interest. In the end, thanks substantially to the air component's contribution, the coalition's rout of the Iraqi army in less than six weeks with so few friendly losses (only 148 American combat fatalities out of more than 500,000 military personnel deployed to the theater) represented something fundamentally new with respect to the application of force. After it was over, U.S. secretary of defense Dick Cheney declared as his personal conviction that the coalition's decisive win had been "attributable in large measure to the extraordinary effectiveness of airpower."[2]

As the campaign was first unfolding, the effective suppression of enemy air defenses and the early neutralization of Iraq's air force were the most widely acclaimed aspects of the air component's performance. Yet those achievements, impressive though they were in and of themselves, were not what accounted for the central role played by airpower in determining Desert Storm's ultimate success. On the contrary, they only secured a necessary buy-in condition for enabling CENTCOM's air arm to demonstrate its *real* leverage of greatest note—namely, its ability to engage an enemy army wholesale, and with virtual impunity, by means of precision

standoff attacks around the clock. The ability of American and allied air assets to establish air dominance so quickly over a well-endowed opponent and then to draw down his army to a point where coalition ground forces could consummate a virtually bloodless win in a brief one-hundred-hour sweep through the war zone represented a new achievement in the history of air warfare.

The Desert Storm experience confirmed that American airpower had finally acquired the needed capabilities to make good on the longstanding promise of its early visionaries of being able to set the conditions for achieving declared campaign goals—yet not through the classic imposition of indiscriminate brute force but rather through the *functional* effects that were now achievable by targeting an enemy's vulnerabilities and taking away his capacity for organized action. The combination of real-time intelligence, surveillance, and reconnaissance (ISR) assets and precision strike capability that was exercised to such telling effect against Iraqi ground forces by CENTCOM's air component heralded a new relationship between air- and surface-delivered firepower, in which friendly ground forces did the fixing and friendly air power did the killing of enemy ground troops rather than the other way around, as had been the case throughout the long history of mechanized warfare.[3]

During the early post–Cold War years that immediately followed Desert Storm, a substantial cutback in the numerical strength of the American air posture was more than offset by broad-ranging qualitative improvements that made that posture even more effective than it was before. For one thing, almost every American combat aircraft now had the ability to deliver precision-guided weapons. For another, the advent of stealth, as was first demonstrated on a significant scale by the F-117 during the first Persian Gulf War, was further advanced by the subsequent deployment of the U.S. Air Force's second-generation B-2 stealth bomber that entered operational service in 1993. Beyond that, the advent of new munitions, most notably the 2,000-pound, satellite-aided GBU-31 JDAM and the AIM-120 advanced medium-range air-to-air missile (AMRAAM) increased the lethality of American airpower in both the ground-attack and air-to-air mission areas. The resultant ability that stealth and precision strike capability gave commanders to conduct accurate attacks with near impunity both around the clock and through the weather imparted a substantially sharpened edge

to American airpower. In the process, it changed the face of modern warfare fundamentally.

The next test of American airpower came with Operation Deliberate Force, an eleven-day campaign of air strikes conducted under NATO auspices against targets in Bosnia-Herzegovina beginning on August 30, 1995, aimed at deterring further Serbian attacks against declared United Nations safe areas and to respond to any such attacks until they ceased.[4] The immediate goal of the initial attacks was to destroy all Serbian air defense positions in eastern Bosnia and to neutralize the Bosnian Serb integrated air defense system (IADS) completely. As before in Desert Storm, the defense-suppression phase succeeded, through intimidation, in shutting down the Serbian IADS around Sarajevo and in much of the remainder of Bosnia. Thanks to that, no radar-guided surface-to-air missiles were fired at NATO aircraft after the operation began. The only aircraft lost during the eleven-day campaign was a French Mirage 2000D, which was downed by a shoulder-fired SA-7 infrared surface-to-air missile while the fighter was operating at low altitude on the first day.

A third time in the 1990s when airpower proved pivotal in determining the outcome of a regional conflict was Operation Allied Force, a seventy-eight-day air-only campaign conducted by NATO and led by the United States against the former Yugoslavia between March 24 and June 7, 1999, in an ultimately successful effort to halt the continuing human rights abuses that were being committed against the citizens of Serbia's Kosovo province by Serbian strongman Slobodan Milosevic.[5] This was the first combat experience in which all three U.S. heavy bomber types saw concurrent use. Of major note in this regard, the campaign's opening night saw the long-awaited combat debut of the B-2 stealth bomber, which flew nonstop to its targets directly from Whiteman Air Force Base (AFB), Missouri.

To the surprise of many, the B-2 turned out to have been the most consistently effective performer of the entire campaign. In only forty-nine missions, it flew fewer than 1 percent of the total number of combat sorties. Yet it dropped around 10 percent of the precision-guided munitions (PGM) that were expended in toto and all 652 satellite-aided JDAMs in the first combat use of that weapon. The B-2 also proved itself capable of operating effectively above weather that grounded all other combat aircraft, dropping its munitions usually through cloud cover from 40,000 feet at night against

targets that included enemy airfields, command bunkers, and air defense facilities. Typically the aircraft carried sixteen of the highly accurate bombs and simultaneously delivered as many as all sixteen to separate aim points during a single pass. Thanks to its stealth, it was never tracked by enemy radar. And with its nonstop missions to the war zone all the way from its midwestern base in the United States, the B-2 finally validated the "global reach—global power" concept that had first been articulated by the U.S. Air Force nearly a decade before.[6]

Although Operation Allied Force was not without its inefficiencies, owing largely to the multinational character of the effort, it did represent the first instance in which airpower coerced an enemy leader to yield with no land combat action needed whatsoever. The campaign's successful outcome despite its manifold frustrations further suggested that American airpower had also become sufficiently capable at long last to underwrite a strategy of incremental escalation irrespective of the latter's inherent inefficiencies. What made the gradualism of Allied Force more bearable than that of the earlier war in Vietnam was that in the more recent case, the allied advantages in stealth, precision standoff attack, and electronic warfare capability meant that NATO could fight a onesided war against Milosevic with near impunity and achieve the desired result, even if not in the most ideal way.

Continued Successes into the Twenty-First Century

Then came the unforgettable surprise attacks conducted against the United States by means of hijacked airliners on the morning of September 11, 2001. For the first time since the Soviet Union's collapse a decade earlier, those attacks instantly imparted a clear name to the hitherto undefined "post–Cold War era" by identifying radical Islamist terrorism as the newly transcendent threat to American security. The shadowy nonstate character of that threat meant that the nation would now have to respond by continuing to rely not just on its highly capable aerial strike warfare posture but also on expanded homeland security measures and enhanced international police work. At the same time, although this expanded roster of requirements meant that the U.S. government would now be forced to mobilize virtually all elements of national power in support of its counterterrorism efforts around the world, it remained clear that the cutting edge of those efforts would make the most of the nation's single greatest

asymmetrical advantage—namely, its globally mobile and rapidly responsive air-warfare capability.

The inaugural use of force by the United States in its newly declared global war on terror, Operation Enduring Freedom, followed just seven weeks after the terrorist attacks that had been carried out by radical Islamist extremists on the now-infamous summer morning of September 11.[7] It, too, was largely an air war enabled by U.S. and allied SOF teams who led and supported indigenous Afghan opposition fighters on the ground. It was directed against al-Qaeda's center of gravity in Afghanistan and against the ruling Taliban theocracy that had provided it a safe haven. Among other things, the campaign showed the ability of the United States to conduct successful aerial force projection from land bases located thousands of miles away from their target areas as well as from U.S. Navy aircraft carrier operating stations positioned farther away from a landlocked combat zone than ever before in the history of naval air warfare.

As for air-warfare "firsts" that were registered during Enduring Freedom, the war saw the first combat employment of JDAMs by the B-1 and B-52. (During Operation Allied Force only the B-2 had been configured to deliver that munition.) It also saw a continuation of some important operational trends that had first been set in motion during the Gulf War a decade before. Precision air-delivered weapons accounted for only 9 percent of the munitions expended during Desert Storm, yet they totaled nearly 60 percent in Enduring Freedom. That improvement allowed campaign planners by then to speak routinely not of the number of sorties required to destroy a given target but rather of how many targets could be successfully engaged by a single sortie. Also for the first time in the history of armed conflict, Operation Enduring Freedom was conducted under an overarching ISR umbrella that stared down relentlessly in search of enemy activity. This multiplicity of interlinked sensors enabled a greatly increased refinement of ISR input over that which had been available in earlier years. It also permitted a degree of ISR fusion that distinguished Enduring Freedom from all previous air campaigns.

In the end Operation Enduring Freedom proved to have been a real-world battle laboratory for testing, in a live combat setting, some of the most significant airpower advances to have occurred in more than a decade. Throughout the campaign, persistent ISR and precision air attacks gave the

United States the ability to deny the enemy a sanctuary both day and night and in any weather. The result was far more resounding than that obtained two years before during Allied Force.

Finally, in CENTCOM's next major war two years after the attacks of 2001, the major combat phase of Operation Iraqi Freedom in March and April 2003 brought down the regime of Saddam Hussein in just three weeks of high-intensity fighting. During that campaign's initial days, U.S., British, and Australian combat aircraft quickly neutralized an already heavily degraded Iraqi IADS and established uncontested control of the air while concurrently paving the way for the allied ground thrust toward Baghdad by shredding in detail Iraq's Republican Guard divisions, even when a three-day sandstorm reduced visibility on the ground for a time to just meters.

Unlike Operations Desert Storm, Deliberate Force, Allied Force, and Enduring Freedom that preceded it, this second Persian Gulf showdown was not predominantly an air war even though allied air operations played a pivotal role in setting the conditions for its successful early outcome. Neither, however, was it predominantly a ground war, despite the fact that most subsequent assessments of it tended to portray it as such because most of the accompanying news reporters happened to have been embedded with American ground units. In fact, the land offensive could not have been conducted so quickly and with such a relatively small loss of friendly life (just 108 U.S. military personnel killed as a direct result of enemy fire) without the air component's contribution in establishing prompt air supremacy over Iraq and then beating down the enemy's ground forces to a point where they lost their will and capacity to resist.

In its conduct of the major combat phase of Operation Iraqi Freedom, CENTCOM enjoyed air and information dominance essentially from the campaign's opening moments. The immediate goals of the offensive were the neutralization of Iraq's armed forces and the most expeditious takedown of Hussein's regime with minimal collateral damage by achieving tactical surprise, getting inside the regime's decision loop, severing its command and control links, and undermining its capacity for collective action. As combat operations moved ever closer to direct contact with Iraqi troop positions, allied airpower and high-impact SOF forces working in unison stayed ahead of the enemy at every step, often achieving specific desired

mission objectives either before or independently of any direct engagement by main opposing forces on the ground.

The three-week air war was also distinguished by the application of mass precision for the first time. During its first twenty-four hours, nearly every air-delivered weapon was precision guided. Even well into the campaign's first week, 80 percent of CENTCOM's munitions had been either satellite aided or laser guided. This path-breaking application of accurate target-attack capability, moreover, was accompanied by a prevalence of effects-based planning for the first time as allied air operations were driven by specific desired results and not just by the sought-after achievement of arbitrary levels of target destruction for their own sake.

In addition, the campaign featured a more closely linked force than ever before. Persistent ISR coupled with a precision strike capability by all participating aircraft allowed CENTCOM's air component to deliver discriminate effects throughout the battlespace, for all intents and purposes, on demand. In contributing to the campaign, moreover, allied airpower did not just "support" allied land operations by "softening up" enemy forces. More often than not, it conducted wholesale destruction of Iraqi ground forces both prior to and independently of allied ground action. The intended net effect of allied air operations, an effect that was ultimately achieved, was to facilitate the quickest possible capture of Baghdad without the occurrence of any major head-to-head land battles.[8] As CENTCOM's air component commander during the major combat phase of Iraqi Freedom, Lt. Gen. T. Michael "Buzz" Moseley, put this point during a press conference as the campaign's endgame neared: "Our sensors show that the preponderance of the Republican Guard divisions that were outside of Baghdad are now dead. We've laid on these people. I find it interesting when folks say we're softening them up. We're not softening them up. We're killing them."[9] In a subsequent memoir further attesting to that fact, a Marine Corps reconnaissance platoon commander who had been at the leading edge of the First Marine Expeditionary Force's final push northward during the campaign offered this succinct portrayal of what that accomplishment meant in practice: "For the next hundred miles, all the way to the gates of Baghdad, every palm grove hid Iraqi armor, every field an artillery battery, and every alley an antiaircraft gun or surface-to-air missile

launcher. But we never fired a shot. We saw the full effect of American airpower. Every one of these fearsome weapons was a blackened hulk."[10]

In both of the first two U.S. campaigns of the twenty-first century, the nation's transformed air-warfare capability played a crucial role in allowing the rapid success of allied moves on the ground. Through the lethal combination of a ready availability of precision striking power, a persistent overhead ISR umbrella, and a command and control capability that had become a significant force multiplier in and of itself, the two campaigns showed that U.S. air-warfare assets were now able to defeat enemy forces through functional effects rather than through the more classic and protracted process of attrition. Moreover, as was borne out by the steady succession of aerial warfare successes since Desert Storm, America's strike options had finally matured to a point where they could now, at least in principle, offer theater commanders the promise of engaging and neutralizing an enemy's countervailing forces from standoff ranges with virtual impunity. They also offered combatant commanders the potential for achieving strategic effects from the earliest moments of a campaign through their ability to attack an enemy's core vulnerabilities with both shock and simultaneity.

Rising Headwinds to Contend With

If the Desert Storm experience of 1991 offered a first look at the new combat leverage offered by the recently transformed American airwarfare posture, Operation Allied Force against Serbia in 1999 dramatized a further expansion of that leverage made possible by the advent of highly accurate satellite-aided JDAMs in depriving enemies of a weather sanctuary. In both cases, as with Operation Deliberate Force in between, precision standoff attacks delivered by a multiplicity of strike aircraft types spotlighted the emergence of a fundamentally new American combat capability whose essence had now come to include high lethality on the first mission, near-complete freedom of operations from the outset of combat, unrelenting attacks at a high pace that allowed enemies no sanctuary, the establishment of situation control from the opening moments of combat, and the dominance of combat operations by information.[11]

Indeed, on the heels of President George W. Bush's inauguration in January 2001, his first secretary of defense, Donald Rumsfeld, entered office so enamored of the further promise of this evolved capability that he

singled out its cumulative performance since Desert Storm as justification for initiating a much-ballyhooed process of defense "transformation" aimed at pursuing an American fighting posture that was unprecedentedly light and lethal, based largely on the offerings of high technology in general and of air- and space-based systems in particular. He even went so far as to establish an Office of Force Transformation under his direct purview, headed by Vice Adm. Arthur Cebrowski, USN (Ret.), to foster that commitment by serving, in effect, as the Defense Department's in-house executive agent for "transformation."

In the early aftermath of Desert Storm, because of the predominant role played by allied air operations in that campaign, it seemed to many that airpower had finally become the tool of first choice for American war planners. That impression was further reinforced by the similarly predominant role played by airpower in shaping the equally successful outcomes of Operations Deliberate Force and Allied Force in the Balkans in 1995 and 1999, respectively. Indeed, as defense analyst Loren Thompson remarked shortly after the start of the twenty-first century, by the time the second Bush administration took office in January 2001, "not only did it look like airpower could win wars, but there was a new crop of policymakers ready to embrace that message."[12] Those new capabilities at the time represented the cutting edge of an ongoing paradigm shift in American combat style that seemed to have been of greater potential import at the time than was the introduction of the tank at the start of the twentieth century. Reflecting the prevailing outlook of American military thinkers and defense planners, the U.S. Air Force's roadmap submitted in 2004 to the Pentagon's Office of Force Transformation, as had been required by Secretary Rumsfeld's Defense Transformation Planning Guidance, characterized the era that appeared to have just dawned as "an exciting time" for the service.[13]

Some ominous trends, however, were now afoot in both Iraq and Afghanistan that would soon cast a long shadow over this seeming success story about American airpower and its steady maturation since Vietnam. The seemingly relentless progress that the American air weapon had made by way of sustained improvement ever since its initial post-Vietnam renaissance was abruptly interrupted when the nation's combat involvement in Iraq and Afghanistan shifted almost overnight, beginning in late 2003,

from high-intensity and, to varying degrees, air-dominated warfare against organized enemy forces into the very different sort of COIN combat that has since prevailed in both countries and that has mostly been dominated by coalition ground action. With that sudden change in the overall pattern and character of the nation's armed conflicts, the evolved American air posture that had so predominated through five successive earlier campaigns starting with Desert Storm all of a sudden became increasingly less relevant in the eyes of many. It also found itself more contested than ever before in the relentless interservice competition for roles and resources.

Before the nation's successes in Afghanistan and Iraq metamorphosed into slower-motion COIN wars of attrition, the main focus of the American defense debate had been on symmetrical warfare and on the associated issue of airpower versus "boots on the ground." By the time the second Bush administration had geared up for its invasion of Iraq in 2003, the increasingly archaic "boots-on-the-ground" school of thought had clearly become the more beleaguered in the annual budget battles as American airpower had seemingly reached the pinnacle of its credibility and combat leverage. Yet the festering insurgencies that soon erupted afterward and then became entrenched in Iraq and Afghanistan entailed enemy conduct of a different sort than the nation had ever experienced before since Vietnam—operations designed to avoid American strengths and instead to make the most of American weaknesses. That new face of the nation's combat challenges after 2003 in turn fundamentally altered the nature and focus of the debate that had dominated strategy discussions throughout most of the preceding three decades that followed Vietnam.

To expand further on this major shift that began occurring up to that point, although there is no denying the crucial role that the American aerial strike posture played in bringing down Saddam Hussein's regime, mastering the more unconventional COIN challenges in Iraq and Afghanistan that dominated the headlines for nearly a decade thereafter was another matter entirely, and one that tended to highlight modern airpower's enduring limitations as well as its strengths. Not surprisingly, a growing number of commentators with their own agendas soon began arising to claim that the onset of Islamist extremism and the associated spread of insurgencies had increasingly displaced the more downstream possibility of an emergent near-peer competitor like China as the preeminent near-term

challenge to the nation's security interests. They also maintained that in light of this most recent development, the nation's vaunted aerial strike warfare capability was no longer of such central pertinence as before and that new investment priorities were now called for in order to cope most responsibly with those new and growing demands.

Indeed, in its most extreme manifestation, that new refrain went so far as to insist that what had lately come to be called "fourth-generation warfare" had not only displaced but fully supplanted the older form of armed conflict, thus dictating that the nation abandon any further costly hedging against that by-then allegedly obsolete form of warfare and to begin equipping itself with new weapons and concepts tailored more expressly for dealing with new fourth-generation threats.[14]

In light of that new challenge that gradually arose to confront the United States owing to the country's still-unfinished regime-change initiatives in Iraq and Afghanistan, one of the more even-handed of those newly emergent arguments concluded by 2006 that the nation was accordingly obliged to "shorten [its] gaze and focus on immediate operational challenges and problems first, on visible near- and mid-term threats second, and only then on long-term threats and opportunities."[15] A more outspoken exemplar of such thinking went so far as to posit that the threat of greatest import to American interests was by then no longer "conventional forces but unconventional ones" and that the nation now risked running a grave danger if it continued to think "in conventional terms and [to seek] to dominate [the conventional] battlefield at the expense of being prepared to fight on other fields." Accordingly, so this more extreme line of argument went, responsible defense planners by then had no choice but to turn their attention and resources toward preparing to fight "low-tech, very human opponents … *rather than* [a] high-tech, equipment-intensive enemy."[16] In its most hard-over manifestations, that newly fashionable line of argument went so far as to insist that the United States must now "stop emphasizing technology and start focusing on people," that "technology is largely irrelevant in this sort of long-term struggle," and that high-intensity conventional wars "represent the past."[17]

Such thinking was clearly apropos up to a point. It went decidedly overboard, however, in its most strident insistence that the nation should give up its previous security concerns completely in due deference to its

most recently emergent new ones. That hyperbolic outlook wrongly presumed that fourth-generation warfare had by then fully supplanted the higher-intensity conventional threats that had been so handily negated in earlier wars going back to Desert Storm. Furthermore, although it drew undeniable sustenance from the continuing COIN challenges the nation was then facing in Iraq and Afghanistan, a perceptible strain of service parochialism and advocacy could be discerned in at least portions of it since the sorts of weapons, concepts of operations, and other needed investments held to be the "new imperatives" for American security planning happened to be those that played to the greatest interests of the land-warfare community. Stephen Biddle, an analyst with strong predilections toward that community and its interests, flatly acknowledged that acceptance of such an outlook would inevitably lead to "a reallocation of resources away from the Air Force and Navy and toward the Army and Marines and [to] an increase in total ground force personnel."[18]

Throughout the preceding decade in the early aftermath of Desert Storm, the nation's land combatants had found themselves, for the most part, on the defensive in the roles and resources arena, thanks to the manifest improvement in effectiveness of the nation's aerial strike assets, as had been conclusively demonstrated during the first Gulf War and repeated in like fashion in every subsequent major U.S. combat experience ever since. In later years, however, with the former Soviet military threat by then a receding memory in the minds of most, with China not yet a confirmed American near-peer competitor, and with the nation's persistently nagging insurgency challenges in Iraq and Afghanistan seemingly the wave of the near-term future, land warriors had by that time gained a new claim to relevance and a new lease on life in the continuing battle for resources and ascendancy in joint warfare.[19]

That rising line of argument emanating from within the U.S. landwarfare community plainly demanded acceptance and respect up to a point since the American defense establishment had plainly failed to prepare itself adequately for what the nation inherited as a result of the second Bush administration's grossly under-resourced regime-change initiatives in Afghanistan and Iraq. As a result of those failures, few could disagree persuasively at the time that the nation must accordingly find better ways of dealing with its lately acquired COIN challenges. However,

that fair argument, as far as it went, fell short by taking a reasonable view to an unwarranted extreme in its overdrawn assault against what its proponents falsely decried as the nation's would-be "rush to embrace technology as the solution to *all* our problems" and its associated alleged presumption that our "lead in this area is commanding and translates directly into an inherent advantage against *any* potential enemy."[20]

On this contentious point, the most authoritative statement issued by the Department of Defense at the time, its Quadrennial Defense Review (QDR) report for 2006, offered a mixed message about the Bush administration's defense investment priorities. On one hand, that document put forward as its foundational construct the baseline premise that the nation was now facing an open-ended confrontation against Islamist extremism that would most assuredly *not* be satisfactorily accommodated from one annual budget cycle to the next. In particular, the 2006 QDR report stated that U.S. forces were maintaining "their predominance in traditional warfare" but were badly in need of further improvements to address new "nontraditional challenges."[21] It further noted that the Department of Defense would continue to "increase its capabilities and forces to deal with irregular, catastrophic, and disruptive challenges," implying that, if need be, such would be done at the expense of funding capabilities and forces for meeting "traditional challenges"—the lately adopted shorthand term for major combat operations.[22]

Yet, at the same time, the 2006 QDR report was also emphatic in pointing out that the single greatest challenge facing American forces at that time was "finding the enemy and then acting rapidly on that information."[23] It further acknowledged that the looming challenge of defeating terrorist and insurgent networks had placed an unprecedented premium on "capabilities and organizations to help fuse intelligence and operations to speed actions based on sensitive intelligence."[24] In that regard, it identified a still-needed capability for "prompt global strike to attack fleeting enemy targets rapidly." It added that, with respect to joint air capabilities, the latter "must be reoriented to favor, where appropriate, systems that have greater range and persistence; larger and more flexible payloads for surveillance or strike; and the ability to penetrate and sustain operations in denied areas."[25]

In sum, for all its stress at one level on the preeminence of COIN-related concerns, the 2006 QDR report could be said to have been all over

the map with respect to the main issues in contention, leaving ample grist for the global power-projection community's mill in the immediate years ahead. To be sure, as in the case of any essentially political and bureaucratic document of that nature, it was well understood by all upon the document's release that its stipulations could be rendered null and void in an instant once a new administration was in place, which eventually occurred—ultimately with major downside consequences for the nation's air posture—in January 2009. At the time the 2006 QDR report was first issued, an attentive reading of the document would have pointed to some lines of activity that the nation's air-warfare principals had been not only cleared but indeed directed to pursue. All of that, however, was soon destined to change not just at the margins but radically as a result of the very different spending priorities of Rumsfeld's appointed successor in the Bush administration, Robert Gates.

A Once-Vibrant Air Force Increasingly on the Ropes

At the heart of this gathering predicament for the Air Force was a tectonic shift that had begun to occur in the way the service was faring when it came to the Defense Department's distribution of military roles and resources. Ever since his assumption of office as secretary of defense in December 2006, Gates had insisted that virtually all of the services' attention and priorities be devoted principally to supporting the nation's two ongoing COIN wars. In his memoirs published eight years later, he was unabashed in recalling his complaint at the time about the "seeming detachment [of the service chiefs] from the wars they were in and their focus on future contingencies," either unmindful of or indifferent to the fact that those chiefs were not just empowered by but actually directed by Title X of the U.S. Code to see to the proper organizing, training, and equipping of their respective services for such out-year contingencies as the most abiding responsibility of their positions of service stewardship.[26]

Yet, be that as it may, in the spring of 2007 Gates resolved "to make senior civilian and military leaders in the Pentagon lower their eyes from future wars … to focus on the wars right in front of them."[27] He also retrospectively portrayed the U.S. Air Force as having been one his "biggest headaches" at the time in that regard.[28] A year later the first public hints began to surface that Gates and the then-incumbent Air Force chief of staff, Gen. Buzz Moseley, were not on the same page when it came to a proper

appreciation of American defense spending priorities. In a speech he gave at the Air Force's Air War College at Maxwell AFB, Alabama, in late April of that year, Gates enjoined his audience to "consider whether there is more the [Air Force] can do to articulate and codify the unique role of air power in stability operations." He went on to complain that he'd been "wrestling for months to get more ISR assets into the theater," but "because people have been stuck in old ways of doing business, it's been like pulling teeth."[29] The secretary did not refer outright to any Air Force airmen by name as the main source of his frustration, but that was, by all indications, his intended implication. Without question, behind his remark was an unerring fixation on the immediate needs of supporting the nation's ongoing COIN wars, juxtaposed against an assessed Air Force preference for remaining "stuck in old ways of doing business," as Gates put it, emanating from that service's continuing insistence on regarding its long-in-gestation fifth-generation F-22 fighter as its main force-development priority. As he recalled years later in his memoirs, his speech at Maxwell was "generally seen as a broadside against [the Air Force leadership]," and he characterized it in hindsight as "only the opening salvo."[30]

Then, less than two months after having fired that figurative shot across the Air Force's bow, Gates peremptorily and unceremoniously demanded the resignations of both General Moseley, who had previously been the air commander for the highly successful major combat phases of both Operations Enduring Freedom and Iraqi Freedom, and Secretary of the Air Force Michael Wynne. As the principal avowed reason for those two summary dismissals, Gates cited unacceptable Air Force laxity with respect to the exacting demands of nuclear weapons surety.[31]

By way of the most essential background to that highly charged allegation, the previous August 2007 Air Force munitions technicians had mistakenly loaded six AGM-129 cruise missiles armed with live nuclear warheads onto a B-52 bomber at Minot AFB, North Dakota, that then proceeded to fly to Barksdale AFB, Louisiana, after which it sat parked on an unsecured flight line for nine hours without a special guard before the error was finally discovered.[32] In addition, less than a year after that incident, Air Force personnel had discovered that four electrical fuse components for the nuclear warhead of an Air Force Minuteman intercontinental ballistic missile had been inadvertently shipped to Taiwan

eighteen months earlier by the Defense Logistics Agency.[33] Although neither occurrence involved any danger of an actual nuclear weapons mishap, they most definitely reflected serious nuclear management oversight errors, and the Air Force leadership, from General Moseley on down, stepped out smartly to address them.[34]

Despite the public explanation given at the time by Gates for his decision to dismiss the two service leaders, it was widely believed, and continues to be so among many to this day, that his real breaking point had been the Air Force's failure to bend sufficiently in acceding to his assessed spending priorities and its fixation instead on what the secretary had come to disparage as an inappropriate service focus on future threats at the expense of its more immediate and pressing mission support needs. As he expressed this point during a seminar sponsored by the Heritage Foundation in May 2008, "I have noted too much of a tendency towards what might be called next-war-itis—the propensity of much of the defense establishment to be in favor of what might be needed in a future conflict."[35] In what, viewed in hindsight, was surely one undeniable manifestation of such alleged "next-war-itis," General Moseley, in directed testimony to Congress, had flatly declared seven months before: "As a service chief, I'm worried about tomorrow. Beyond Iraq and Afghanistan, there are storm clouds on the horizon, troubling global trends that will bring friction, competition and conflict, and will no doubt involve potential adversaries who have gone to school on American airpower these last 17 years."[36]

Reflecting more than two years thereafter on the likely real motivation behind Gates' unprecedented move to relieve the two topmost Air Force leaders during the course of two ongoing wars, a still-serving U.S. Air Force officer, citing numerous illustrations in point, remarked that although they were "ostensibly fired" for having been unacceptably lax in overseeing the service's nuclear enterprise, "nearly all commentators agreed that the irreconcilable debate over the F-22 contributed in part to Gates's decision."[37] Gates himself later denied that intimation outright in his memoirs when he insisted that although "there would later be allegations that [he had] fired [Secretary Wynne and General Moseley] because of their foot-dragging on ISR or, more commonly, because we disagreed on whether to build more F-22 combat aircraft," it had been their alleged failure to deal adequately with the nuclear surety issue "alone that sealed their fate."[38] For

its part, the Air Force, which had been all but universally thought of up to that point as "the golden service of the 1990s," almost instantly fell into what one press account rightly called "a deep descent" as a result of its abrupt leadership decapitation and the associated stigma of its having been adjudged to have been out of step with the avowed priorities of the newly incumbent secretary of defense.[39]

Shortly after Secretary Wynne and General Moseley were relieved, Gates chose Gen. Norton Schwartz, an airman with a SOF and air mobility background and with extensive senior joint-arena experience, to be Moseley's successor as Air Force chief. One press account at the time reported "senior defense officials" as having noted that Gates "was looking for an Air Force chief who did not come with a fighter pilot's 'call sign' nickname." Gates himself, upon making the announcement, indicated about as much when he frankly declared that "this is about the transitioning Air Force."[40] On that point, especially as it bore on the service's insistence at the time on defending its pursuit of an adequate number of F-22s even as the nation's COIN challenges were steadily mounting in 2005 and 2006, the then-serving special assistant to General Schwartz later remarked in 2009 that "there was reason to believe that General Schwartz's nomination stemmed from the Secretary of Defense's desire to shake up the traditional hierarchy by ending the string of fighter-pilot chiefs of staff."[41] Gates himself tacitly acknowledged that allegation when he later wrote in his memoirs that for the Senate not to have confirmed Schwartz expeditiously and without challenge as the new chief would have been "a disaster for the Air Force" since, in his own personal opinion, the service's "bench was thin and there was no obvious alternative."[42] Similarly, numerous informed press reports at the time portrayed the dismissals as "the culmination of a broader dispute between Mr. Gates and the Air Force's leadership over the service's strategic direction…. The biggest source of tension [was] the Air Force's insistence on buying hundreds of expensive state-of-the-art F-22 fighter jets … despite opposition from Mr. Gates, who [had] argued that the planes [weren't] needed for prosecuting America's current wars."[43]

By all subsequent indications, the once-orderly maturation of American air and space power that had been such a distinctive hallmark of the preceding decade had by that time lost most its former luster in the wake of the nation's continuing COIN embroilments since 2003 and was now ready

prey to the all-but-total emphasis the then-incumbent civilian defense leadership had chosen, in response, to apply toward addressing those concerns to the virtual exclusion of all else. It was inevitable that this ensuing redirection of attention and effort would sooner or later most profoundly affect the fortunes of the U.S. Air Force, which—along with U.S. Navy, U.S. Marine Corps, and allied fixed-wing strike aircraft, all to a lesser degree—had arguably been the main enabler of the coalition's impressive success during the three-week major combat phase of Operation Iraqi Freedom in 2003. Summing up that lately arisen conundrum, Col. Thomas Ehrhard, USAF (Ret.), well spotlighted the political quicksand that had lately come to afflict his former service when he wrote in 2009 that the Air Force was experiencing "an institutional identity crisis that [placed] it at an historical nadir of confidence, reputation, and influence."[44]

Among the many testaments to that newly arrived predicament, the Air Force found itself at a historic low in personnel strength at the same time it was increasingly being expected to perform so-called "in lieu of" wartime duties on behalf of the nation's land services in Iraq and Afghanistan. In 2009 its authorized personnel level of some 316,000 airmen was the lowest it had ever been since its establishment as an independent armed service in 1947.[45] Not only that, the Air Force faced a major and still-growing problem with an aging aircraft inventory and stalled force recapitalization, which was by far the most acute forcedevelopment issue confronting the service at the time, owing to the dramatic increase in sustained aircraft wartime use rates at more than double the planned peacetime rate since 1990, when the Air Force (along with the Navy and Marine Corps) began flying nonstop combat air patrols to police the northern and southern no-fly zones over Iraq ever since Saddam Hussein's forces invaded Kuwait in August of that year.

Furthermore, the Air Force increasingly found itself disadvantaged in its access to annual discretionary budget shares. For example, the Department of Defense's supplemental budget amendment for fiscal year 2008 gave the Army an additional $106.4 billion and the Air Force and the Navy only $23 billion each, even though both of the latter two services continued to labor under constant deployment commitments that had taken them close to a breaking point. More than once during the years after 2003, the Office of the Secretary of Defense had "taxed" the Air Force and Navy in order to

help cover the cost of Army operations in Iraq and Afghanistan, leading one complainant to suggest that the Air Force budget had become little more than a bank account for the ground services.[46]

Finally, with a new Air Force leadership more to his liking by then in place, and in yet another body blow to the nation's now badly dispirited air service, Secretary Gates ten months later, in April 2009, recommended to recently inaugurated President Barack Obama, who had retained Gates in office from the previous administration, that further production of the F-22 be summarily ended at the then-funded number of 187 aircraft that had already been authorized, well short of the initially determined "low-risk" force of 381 or "moderate-risk" force of 243 aircraft. That peremptory, top-down recommendation came months before the slated completion of the Pentagon's then-ongoing 2010 QDR, which was being conducted expressly to provide a systematic analytical basis for such major force-structure decisions, on the asserted premise that the world's premier combat aircraft was not pertinent to the nation's COIN wars then under way or to any future conflicts that the United States might face in the immediate years ahead.

The decision, moreover, was announced just as the F-22 had finally passed the knee of a steep improvement arc in its demonstrated performance and affordability and had progressed almost halfway toward its finally agreed goal of 381 aircraft, which ultimately would have sufficed to equip each of the Air Force's ten Air Expeditionary Forces with a full squadron of 24 F-22s, leaving a comfortable margin of 140 additional aircraft for pilot training, follow-on flight test and evaluation, and provision of attrition fillers to supplant periodic aircraft losses due to accidents in routine peacetime operations. As one well-informed appraisal of the decision and its likely downside consequences uncompromisingly declared soon thereafter, the premature ending of F-22 production well short of the sought-after force of 381 aircraft meant "that the Department of Defense [was], in effect, accepting high risk to its future ability to achieve the rapid air dominance that [had] been central to the American way of war since the Korean conflict…. Gates' assertion that 187 F-22s (130 combat-coded) [would] suffice through mid-century [was] the sort of prediction about the future that can never be made with confidence…. A final buy of 187 [was] clearly not based on the operational needs for air dominance that could well materialize in coming decades."[47]

Some Washington insiders saw Gates' decision as having been driven principally by a desire on his part to free up dollars for President Obama's stimulus package aimed at ameliorating the worst effects of the economic crisis that had erupted the year before. Yet Gates insisted that his termination of F-22 production "was not even a close decision" and that he would have made that choice "regardless of the Department's topline budget number."[48] A week later the new Air Force secretary and chief publicly acceded to that arbitrary ruling that had emanated from on high at Gates' hand based on no discernible prior mission-need analysis, declaring that in light of other required service capabilities, "buying more F-22s means doing less of something else … [and] the time has come to move on."[49] The following month General Schwartz testified before a subcommittee of the House Armed Services Committee that ending production of the F-22 at only 187 aircraft had admittedly entailed a higher risk to U.S. security but represented the only "affordable" option. Seemingly revealing at least a hint of discomfiture over that declaration, he went on to say: "243 is the right number, and 187 is the affordable force"—a polite way of saying the force approvable by Secretary Gates.[50]

For his part, although he offered no reflection on the likely longerterm impact that these successive body blows dealt to the Air Force might eventually have on its institutional self-esteem and morale, General Schwartz, in his own memoirs nearly a decade later, did acknowledge that his service had been "struggling on many levels" during Gates' incumbency as secretary of defense. He also admitted that, given his own extensive background in the joint special-operations world, he felt "better accepted by the Army than … by the Air Force" and that his having been "a known commodity by much of the Army leadership [had] sent up red flares in the minds of many Air Force peers and seniors." He voiced his agreement with Gates that the Air Force had been "insufficiently committed to the war [in Iraq and Afghanistan]" and that he and new Secretary of the Air Force Michael Donley had concluded after Gates's summary capping of any further F-22 production at the then-authorized number of 187 that continuing to press for any more of those aircraft by that point had become "an unwinnable debate."[51]

Yet another setback for American airpower's continued progress toward staying ahead of its most demanding probable future mission needs then

ensued from an additional force-development constraint that the Pentagon's civilian leadership levied on the services. Driven in part by the still-festering COIN challenge in Afghanistan and in part by declining discretionary funds for force modernization more generally, Secretary Gates deplored investment in what he called "exquisite systems" and called instead for the services' acquiring greater numbers of systems "that represent the 75-percent solution." In that context, he spoke out aggressively against procuring weapons simply "to overinsure against a remote or diminishing threat" so as to "run up the score in capability where the United States is already dominant."[52]

By all outward signs, Gates brought that overarching mindset into the Pentagon with him when he first succeeded Rumsfeld as secretary of defense, and he could only have had it further entrenched by the near-constant propinquity of three of his five senior military assistants who were three-star *land-force* generals and his most intimate military confidants. Perhaps best reflective of that likely pernicious influence of boots-on-the-ground prejudices in governing his thinking, Gates revealed the shallowness of his awareness of airpower's true worth to the American security equation when he echoed the U.S. Army's continuing self-serving mythology that the United States and its coalition partners "had routed Saddam Hussein's army … in less than one hundred hours during the Gulf War," failing entirely to acknowledge the preceding thirty-nine days of uninterrupted and indispensable aerial pounding of Iraq's fielded ground troops by CENTCOM's air component all on its own that had rendered that final one-hundred-hour sweep through the Kuwaiti Theater of Operations such a pushover for its land component.[53]

When his own new strategy for the Department of Defense was released in July 2008, Gates remarked: "I firmly believe that in the years ahead, our military is much more likely to engage in asymmetric conflicts than conventional conflicts against a rising state power."[54] Yet more than three decades before, when Gates was still serving as an ambitious mid-career Soviet analyst at the Central Intelligence Agency, senior American defense leaders likewise "firmly believed" that regional skirmishes with lesser powers like Vietnam or North Korea were "much more likely" than the ultimate showdown against the Soviet Union, against which the majority of the nation's defense investments were nonetheless being rightly directed.

Throughout the Cold War's darkest years, striving for the best capability that technology and responsible judgment might allow for was naturally accepted as a categorical imperative for American defense planners when it came to hedging against a possible war with the Soviet Union. It was always taken for granted that however low the probability of such a war might have been, its consequentiality for the nation's continued survival was sufficiently high in case it should nonetheless occur to more than amply justify the cost of striving for the sharpest possible combat edge. It was that planning orientation that gave the United States not only its effective nuclear deterrent triad but also the uniquely capable conventional forces that the nation took to Desert Storm in 1991.

However, in due obeisance to Gates' latest directive, Secretary of the Air Force Donley and General Schwartz, in a joint statement to Congress in 2009, acknowledged that the Department of Defense had "provided guidance for the military to eliminate excessive overmatch in our tactical fighter force and to consider alternatives in our capabilities."[55] The chief later said in an interview that the Air Force had accordingly lowered its sights and would now pursue only what was "realistically doable" in the prevailing funding environment. In that regard, the nation's air service would now only aim for simple sufficiency in areas where it previously had been accustomed to dominance. General Schwartz added that the service would now also pursue only systems deemed pertinent to the most likely future missions.[56]

In the end, accordingly, the highly refined American air posture that had figured so centrally in the major combat phase of Operation Iraqi Freedom in early 2003 and that continued to contribute indispensably to the nation's subsequent still-ongoing COIN wars in Iraq and Afghanistan finally found itself confronting a real possibility of being systematically dismantled on the installment plan by new civilian leaders fixated on the nation's most prepossessing low-intensity exigencies of the moment, to the virtual exclusion of all other threat considerations. Indeed, the by-then widespread image among many of the U.S. Air Force as an institution now reeling from the newly emergent demands of unconventional COIN warfare finally became sufficiently entrenched in the public's mind by 2010 to have prompted military historian Martin van Creveld to ask rhetorically in a prominent essay: "Does independent air power have a future, or is it now

past its peak?"[57] Van Creveld went on to argue that the "core mission" of air forces "everywhere [was] being eroded" and that, for that reason, "there really [was] no convincing reason why they should be part of an independent service…. [Assuming] that 21st-century wars will be mainly of the low-intensity kind, … there probably is no compelling case for independent air power at all."[58] Even kibitzers from the sidelines eventually found enough motivation of their own to climb on board this now rapidly accelerating bandwagon. To note but one of many instances of the fashionable trend that could be cited in this regard, an obscure American college professor who several years before had published a provocative essay titled "Abolish the Air Force" was invited to present his case to the class of 2010 at the U.S. Air Force's Air Command and Staff College. Immediately after that experience, he wrote in his blog: "Apparently it's now cool to ask why the country needs an independent Air Force."[59]

A More Compliant Air Force on the Eve of Inherent Resolve

At the start of the twenty-first century's second decade, all of the U.S. services found themselves in uncommonly dire straits due to the acute financial strains that had been imposed on them by the changed spending priorities of the new Obama administration that assumed office in January 2009. Further aggravating this situation, the Budget Control Act of 2011, approved by Congress to help constrain the out-of-control growth in the national debt, called for a mandatory additional sequestration of federal funds to be borne each year in equal measure by the defense establishment and by all other federal agencies combined. To accommodate the many new burdens imposed by the sequester, the U.S. Air Force was forced almost overnight to ground completely thirty-one of its active flying squadrons, including thirteen combat-coded squadrons, forcing their aircrews and maintainers into a prolonged and readiness-killing stand-down. An additional seven squadrons had their monthly flying rates reduced to the most basic tasks, such as maintaining simple takeoff and landing proficiency for their pilots.

In addition to this forced idling of frontline flying units, the elite weapons schools operated by the U.S. Air Force, Navy, and Marine Corps were obliged to cancel their scheduled classes for the rest of that year, and the Air Force's most rigorous large-force training exercise called Red Flag, routinely conducted over a two-week period four to six times a year at

Nellis AFB, Nevada, was summarily cancelled for the remainder of 2013. Essential equipment testing and scheduled upgrades for the service's already-fielded combat aircraft were also indefinitely postponed. The inevitable result was the growing specter of an increasingly hollow U.S. force across the board for the near future.[60]

For its part, however, beyond simply suffering such unavoidable dire effects of sequestration that were borne more or less equally by all of the U.S. services, the Air Force found itself even further beleaguered in contrast to its stature during its more triumphal years going back to its banner performance in Operation Desert Storm. For one thing, by 2010 the service had experienced more than six uninterrupted years of largely providing solely on-call air support to the U.S. Army's unconventional COIN wars in Iraq and Afghanistan, along with the principal means of essential ISR support for those wars. Worse yet, that all-but-unprecedented "new normal" for the Air Force occasioned a gradual but inexorable erosion of the higher-level strategic thinking and sophisticated planning skills that it had previously developed to a high art form toward making American airpower so decisive in earlier tests of strength. That corrosive trend further fed the Air Force's already tarnished self-image and lost sense of institutional identity and elan that had taken such firm root during the early aftermath of the traumatic leadership decapitation it experienced two years before at the hands of Secretary Gates.

On that last count, in a brief review of General Schwartz's four-year incumbency as Air Force chief following General Moseley's summary dismissal by Gates, one retrospective assessment spoke frankly of "the unprecedented upheaval [within the Air Force] that [had] greeted Schwartz as he walked onstage after then-Secretary Gates sacked the service's two top leaders." That appraisal quoted the insightful comment of Loren Thompson, a longtime Washington observer of Air Force issues cited earlier, who remarked that "the circumstances in which [General Schwartz] got the job [as Air Force chief] gave him little room to maneuver and protect his service" in the wake of Gates's peremptory dismissal of his predecessor.[61] As another empathetic writer likewise observed four years later, the Air Force in the early aftermath of the institutional trauma inflicted on it by Gates "largely opted not to advocate for itself" any further, in part in response to the fundamentally false assumption foisted upon it by

General Moseley's and Secretary Wynne's immediate successors that "airpower [somehow naturally spoke] for itself" in the high-stakes interservice roles and resources debates.[62]

Looking back more recently on that uniquely disruptive time for the Air Force, former chief of staff Gen. Ronald Fogleman recalled how one of the most harmful downside consequences of the prolonged U.S. COIN wars in Afghanistan and Iraq that followed the relatively brief and highly successful major combat phases of the nation's wars in those two countries was that "the ability to think strategically … atrophied in the senior leadership of all the services, but particularly in the Air Force." As the former Air Force chief put it, "the imperative to execute [on-call responses to air support requests from embattled American ground troops] took priority over the imperative to continue to think strategically. Gates's relief of the secretary of the Air Force and chief of staff who were fighting for a post-insurgency capability required in a peer-to-peer strategy contributed to this state of affairs."[63]

Yet another corrosive influence that helped fuel the Air Force's loss of its former institutional verve in the wake of its traumatic decapitation in 2008 was the steadily encroaching top-down stress on the proclaimed essentiality of "jointness" in the nation's military culture to a point where, in the fullness of time, as Maj. Gen. Charles Link, USAF (Ret.), recalled in mid-2017, that proclaimed virtue had come to be both perceived and enshrined as "the pinnacle in military excellence" in an overall mandated mindset in which "the symphony began to be more important than the excellence of any of the players." For its part, he added, the Air Force in the face of this relentlessly mounting influence after Desert Storm increasingly failed to hold up its end of the interservice competition for continued relevance. "When," General Link asked retrospectively in 2017, "have you [ever] heard the chief of staff of the Army or the commandant of the Marine Corps asked: 'What does your service bring to the joint fight?' We [in the Air Force] have learned to assume that the 'joint fight' is the 'boots-on-the-ground fight,' [naturally] deserving and requiring support from air and naval forces. Routinely, the Air Force is [now] being defined in terms of 'what it brings to the joint fight'" rather than more importantly in terms of what singular and unique combat leverage its distinctive core competencies provide to the nation on their own.[64]

In an especially revealing testament to the extent to which this tendency had metastasized throughout CENTCOM and other combatant commands since the major combat phase of Operation Iraqi Freedom ended in early 2003, a former U.S. Army four-star general who had been involved in senior joint leader selection was quoted in a recent RAND Corporation survey of the many reasons for the sustained underrepresentation of Air Force general officers in senior joint billets as having recalled that he "often had to lecture his air component commanders about the need to focus on the task at hand—conducting close air support operations in support of ground forces—rather than casting operations in terms of strategic bombing doctrine, a central tenet of airpower theory."[65] What that former Army general was in fact grousing about was the alleged failure of his past air component commanders to duly honor *his* personally preferred "task at hand" for supporting an arguably inappropriate and suboptimal land-centric campaign emphasis as his most senior subordinate airmen sought to advocate—ultimately to no avail—for a more effective use of the full spectrum of tools at his command's disposal.

This was most definitely *not*, it bears stressing, the Air Force's typical experience in its more banner years past. Quite to the contrary, during the initial planning workups for Operation Desert Storm in late 1990, CENTCOM's air component commander at the time, Lt. Gen. Charles Horner, USAF, was able through the force of his personality and leadership style, coupled with a compelling course of action he was armed with for the looming campaign, to persuade the overall Joint Task Force (JTF) commander, Gen. H. Norman Schwarzkopf Jr., USA, to initiate his offensive with air-only strikes against the most critical enemy air defenses and troop concentrations and to continue them for more than a month before the start of any ground invasion. He did so, moreover, at a time when Schwarzkopf's U.S. Army and Marine Corps three-star subordinates, both co-equal in rank to Horner, had been pressing him hard for an armored and infantry assault into the teeth of opposing Iraqi troop formations on the ground from the campaign's first moments that would have guaranteed a large number of friendly combat losses.

For the most part, however, in light of the ever more entrenched predominance of surface-warfare officers as the principal American four-star combatant commanders worldwide in more recent years, General

Horner's chief air campaign planner for Desert Storm, Lt. Gen. David Deptula, USAF (Ret.), recently recalled from his own experience since the end of high-end fighting in Iraq in 2003 how Air Force airmen have generally failed to "educate others as to the potential that airpower offers, fight for a seat at the table where force employment options are decided, and strongly advocate for airpower options where they are most appropriate." He pointedly added: "A generation of occupation-based, ground-centric military strategies seeking to win hearts and minds, and trying to press 16th-century tribes into modern nation-state democracies, has created a dearth of articulate airpower practitioners and advocates in the ranks of the U.S. armed services. Airmen of the past two decades have been lured into a mold of compliance and silence. Compounding that compliance in the United States, when Air Force leadership in the first decade of the 21st century did advocate for a strong U.S. Air Force, they were promptly removed from office." Since then, he observed, "airmen articulating alternative options have largely gone missing."[66] Among those who would still deign to speak up forcefully in interservice planning deliberations "about how the Air Force's contributions could bring strategically dislocating options to the 'joint' table for consideration," Deptula later added, "any such thoughts and/or actions were discouraged and in some cases punished."[67]

In the most recent case of CENTCOM's ultimately successful but overly protracted war against ISIS, which the ensuing chapters explore in detail, Deptula noted that although it was essentially an air-only war, at least with respect to the American combat involvement in it, until its final successful joint air-land conclusion with indigenous anti-ISIS ground forces being supported by U.S. airpower and SOF teams in Iraq and Syria, the campaign's appointed overall JTF commander was "a U.S. Army corps commander through four successive iterations." He further remarked tellingly: "The U.S. Army's leadership at CENTCOM wouldn't put an Army division commander in charge of a Navy carrier battle group, [yet it had] no problem with putting an armored corps commander in charge of an air campaign." The predictable result, Deptula wrote, was an inappropriate ground-centric emphasis toward countering ISIS "that treated airpower as simply an aerial artillery element." Had CENTCOM instead defined the enemy more correctly and pursued a more air-dominant campaign approach

at least at the outset, as the chapters to follow argue in detail, it quite likely "would not have given the Islamic State the gift of time—over three years to perpetuate its ideology of evil and to spread it to over 30 different countries." Instead, Deptula concluded, the reality for the U.S. Air Force ever since the end of major combat in Operation Iraqi Freedom in 2003 has been "a lack of advocacy, articulation, and engagement [on behalf of airpower] by airmen" who have since fallen into a passive mode "as a result of the pressure of what can only be called 'joint political correctness.'"[68]

Fortunately, by the time the would-be ISIS caliphate in Iraq and Syria was finally done in by early 2019—by a lethal combination of U.S. SOF teams and JTACs in both countries, eventually well-trained and spirited indigenous anti-ISIS ground troops, and overwhelming coalition air-power—CENTCOM's air component had more than handily wielded both its strong voice and its organizational effectiveness in Operation Inherent Resolve. Furthermore, the Air Force's leadership on the home front by then appeared fully reenergized, at long last, to go to bat with determination for its legitimate offerings in the joint arena. In that regard, its latest chief of staff, Gen. David Goldfein, made a conscious and long-planned move to further strengthen the Air Force's stance and credibility within that arena by establishing a new JTF headquarters structure within U.S. Air Force Central Command's (AFCENT) 9th Air Force at Shaw AFB, South Carolina, with a view toward eventually certifying that new entity for inclusion in the nation's Global Response Force. Once that latest move is fully implemented and validated, the new organization should advance the Air Force a significant step forward toward competing more effectively at getting tapped for filling JTF command billets in any future contingency within CENTCOM's area of responsibility—or in any other area of responsibility worldwide, for that matter—that might place an especially high premium on its unique combat capabilities and institutional core competencies.[69] More to the point, such a measure should, once implemented, place the Air Force on a more equal footing with its Army counterpart, which has long effectively maintained its own standing internal JTF structures for such prospective command postings.

All of that said, it remains undeniable that the badly traumatized U.S. Air Force that emerged from the peremptory decapitation it suffered at the hands of Secretary Gates in 2008 and from all else that ensued in the early

wake of that sudden shock treatment was essentially the same more subdued service within the broader U.S. defense establishment whose designated air component was in place at CENTCOM when that command's U.S. Army–dominated campaign against ISIS first got off to such a halting start. That fact may take us at least part of the way toward understanding why AFCENT at the time was so slow to leave a decisive airman's mark on the ultimate course and outcome of Operation Inherent Resolve.

How the ISIS Challenge First Arose

As President George W. Bush's then-controversial troop surge that finally brought a modicum of stability to Iraq after four years of COIN warfare was showing its first signs of real promise, he offered during an audience with White House reporters in July 2007 what, in hindsight, turned out to have been a remarkably prophetic warning:

> I know some in Washington would like us to start leaving Iraq now. [Yet] to begin withdrawing before our commanders tell us we're ready would be dangerous for Iraq, for the region and for the United States. It would mean surrendering the future of Iraq to al-Qaeda. It would mean that we'd be risking mass killings on a horrific scale. It would mean we'd allow the terrorists to establish a safe haven in Iraq to replace the one they lost in Afghanistan. It would mean increasing the probability that American troops would have to return at some later date to confront an enemy that is even more dangerous.[1]

Today, with more than a decade of renewed strife in the region having elapsed, that well-advised warning has proven remarkably prescient in every respect.

How, one might ask, did the situation in Iraq devolve from its relative quiescence after the successful U.S. troop surge of 2007 into such catastrophic disarray just a few years later? And what lapses in responsible governance in both Baghdad and Washington allowed ISIS to rise up from the defeated Sunni insurgency in Iraq in the first place and then tighten its grip so aggressively in both Iraq and Syria out of seeming nowhere?

On both counts, it bears remembering that in the early aftermath of the troop surge he finally authorized in Iraq in 2007, President Bush, on leaving office two years later, essentially handed his elected successor a military win there after six years of hard and costly fighting. As was later recalled by Gen. David Petraeus, USA, the commander of all U.S. forces in Iraq at the time the surge began, "Iraq had largely been stabilized by the time the last U.S. combat elements left, with al-Qaeda having been routed during the 2007 surge."[2] In a similar vein, CENTCOM's former commander, Gen.

James Mattis, likewise recalled in a subsequent memoir that by late 2011, “Iraq had entered a post-conflict, pre-reconciliation phase of stability,” with the residual American military force still deployed in the country serving as “the glue holding Iraq together and helping prevent terrorist resurgence. American advisers still circulated at every level inside the Iraqi police and army, [and] our officers and troops were the trusted intermediaries among competing factions.”[3]

However, not long after the surge’s remarkable progress toward that long sought-after end, President Obama proceeded to squander all of the hard-won gains of the preceding six years by withdrawing the remaining U.S. presence from Iraq altogether at the end of 2011. That peremptory move, undertaken against the all-but-unanimous urging of his most senior civilian and military subordinates not to do it, created an entirely foreseeable opportunity for the former al-Qaeda in Iraq (AQI) to metastasize into the even more virulent and rabid ISIS that, in turn, eventually launched the ensuing uncontrolled violence in both countries.[4] Two respected American scholars of international security affairs eight years later bluntly portrayed Obama’s “precipitate withdrawal … in 2011 [as] an avoidable strategic blunder that undercut American policy in the Middle East and far beyond.”[5]

As for the essential background to the mounting chaos in Iraq and Syria that enabled the rise of ISIS in the first place, President Obama announced a month after his inauguration in January 2009 that he would end the American combat role in Iraq on August 31, 2010. He further swore to follow through on his earlier campaign pledge to end the Iraq war once and for all by withdrawing all remaining U.S. troops from the country by the end of 2011 unless an acceptable Status of Forces Agreement could be reached by his administration with the government of Iraq’s prime minister, Nouri al-Maliki. Such an agreement would have allowed for a continued American military stabilizing presence in Iraq for as long as might be needed to offset persistent Iraqi shortcomings in the needed wherewithal for preventing a resumption of the insurgency that had nearly destroyed the country after the war’s major combat phase ended in April 2003.

On this important count, a well-informed assessment noted in late 2014, after the initial gains of ISIS had become undeniable to all, that “everything that [had] happened [in Iraq] since 2011 was foreseeable—and, in fact, was

foreseen by U.S. military planners and commanders, who years earlier cautioned against the complete withdrawal of the nearly 50,000 U.S. troops that still remained in Iraq in 2011." Yet despite that well-advised counsel, this observer went on to say, "Obama and senior members of his national security team fail[ed] to reach an agreement with the government of Iraq that would have allowed a residual U.S. force to remain there temporarily, and also fail[ed] to establish a strategy for how to leave Iraq in a manner that would secure the gains made" during the years that followed the successful U.S. troop surge in 2007. All of that, he concluded, "set the stage for the rapid advance of ISIS and the potential disintegration of the country."[6]

With respect to the ensuing wreckage in the region that followed his withdrawal of all remaining U.S. troops from Iraq, some of the former president's apologists have since offered the all-too-facile rationalization after the fact that Obama "had no choice in the matter" since an agreement that President Bush had signed with al-Maliki's government in 2008 had included a stipulation that all U.S. forces would leave Iraq no later than December 31, 2011. Any amendments to that agreement would have required Iraqi acceptance of a U.S. demand that American troops be granted immunity from Iraqi law, something to which no factions in Iraq's parliament allegedly would have agreed.[7]

Nevertheless, President Obama chose not to pursue a good-faith effort toward that worthy end, despite the fact that many Iraqi government officials and military leaders had privately voiced their support for a continued post-2011 American military presence in the country—and despite the even more compelling fact that the president could have worked to keep an adequate U.S. military stabilizing force in Iraq simply by seeking an executive agreement toward that end with Prime Minister al-Maliki rather than by running such an initiative through the gauntlet of the fractious Iraqi parliament in a move that would surely have guaranteed its failure. Of that most important yet little-acknowledged fact, General Mattis later confirmed that "we had other legal means of protecting American troops from such prosecution. But that made no difference." On the contrary, he recalled, both President Obama and Vice President Joe Biden simply "wanted our forces out of Iraq," and trying to reason with them to the contrary was just "talking to the wind," much akin to "talking to people

who lived in wooden houses but saw no need for a fire department."[8] For his part, the commander of U.S. and multinational forces in Iraq at the time, Gen. Lloyd Austin III, had recommended a residual force of more than 20,000 U.S. troops remaining in Iraq to help the still-fledgling Iraqi Security Force (ISF) maintain domestic order and keep what was left of the by-then largely vanquished AQI on the run.[9] Instead, as an editorial comment in the *New York Times* pointedly recalled the day after CENTCOM's war against ISIS finally saw its halting start in early August 2014, "the Obama administration failed to reach a deal with Baghdad … and ended an eight-year war unceremoniously."[10]

Thanks almost entirely to that eminently avoidable failure, not long after the last U.S. soldier left Iraq, a knowledgeable reporter wrote from firsthand observation that "the country [had] become something close to a failed state." This reporter went on to note that even as early as 2009, the Obama administration had abandoned any further interest in inculcating democratic values in the still-embryonic post-Hussein Iraqi government and had instead directed all of its energies toward the country's mercurial Prime Minister al-Maliki "so that it could more easily withdraw U.S. forces." The net result was that the administration failed to preserve the significant gains finally achieved in Iraq and to honor the ultimate sacrifices of so many American military service personnel, after an exorbitant earlier expenditure of U.S. and allied combatant lives and national treasure, through President Bush's 2007 troop surge, a result that ultimately "would mark a total defeat for the United States in terms of its aims for the country."[11] As yet another respected American scholar later well characterized that premature and ill-advised U.S. withdrawal from Iraq, it represented "Washington's most egregious backward step" in the nation's long and costly endeavor to bring a measure of order to that country after the successful toppling of Hussein's regime in 2003.[12]

With respect to this unfortunate and by no means preordained denouement, Secretary of Defense Gates, who had served under both Presidents Bush and Obama, later remarked in his memoirs that the final withdrawal of all U.S. forces from Iraq "was a regrettable turn of events for our future influence in Iraq and our strategic position in the region." However, he added tellingly, "President Obama simply wanted the … war in Iraq to be ended."[13] In a resounding confirmation of that fact, as was later

recalled in the U.S. Army's meticulously researched history of the Iraq war released in early 2019, a senior White House official warned the director of the newly established Office of Security Cooperation in Iraq that was intended to replace U.S. Forces in Iraq at the end of 2011 "to be prepared not to have any troops under his command after 2011, because the president intended not to maintain a residual force in Iraq." Instead, the official said, "the president would insist that the Iraqi parliament approve the SOFA [Status of Forces Agreement]—a demand that would be a poison pill, since Maliki would not risk a no-confidence vote on his premiership." The official added: "We know it is not going to happen … and it will look like the Iraqis were the ones that made it happen." The U.S. Army's history then added: "The official word came on October 21, when Obama spoke with Prime Minister Maliki via videoteleconference … and informed the Iraqi leader that the United States would reduce its forces in Iraq to zero by the end of 2011."[14]

Looking back on that peremptory decision with eight years' hindsight, General Mattis described both it and its ensuing consequences as "catastrophic," adding that the arresting experience of seeing Iraq slipping back into increasing violence "was like watching a car wreck in slow motion. Soon the Sunnis were in full revolt and the Iraqi army was a hollow, powerless shell, allowing the terrorists to return like a barbarian horde, exactly as the CIA had predicted. In the summer of 2014, the medieval scourge called ISIS rose like a phoenix and swept across western Iraq and eastern Syria, routing the Iraqi army and establishing its murderous caliphate…. All of this was predicted—and preventable."[15]

Also regarding this fateful decision on Obama's part, Secretary Gates' successor, Leon Panetta, who had just assumed office when the last American troops left Iraq at the end of 2011, likewise later wrote of what he considered to have been "the essential mistake of the transition in Iraq—an abrupt departure that left the United States without any presence to continue exercising influence."[16] Nearly five years after that precipitous final U.S. troop withdrawal, the respected British weekly news magazine *The Economist* frankly characterized the president's peremptory move with informed hindsight as "reckless."[17] At about the same time, the editorial page editor of the *Washington Post* wrote similarly of President Obama's "fitful, reluctant re-escalation" of American combat in Iraq, adding that "it

does not require hindsight to appreciate the recklessness of his decision" to pull out all remaining U.S. troops from Iraq at the end of 2011, against the urging of his most senior civilian and military advisers to retain in the country at least "the 15,000 or 20,000 troops that might have helped preserve the stability the U.S. surge had helped achieve."[18]

The ensuing turmoil in Syria that later provided such fertile ground for the rise of ISIS began with the onset of the Arab Spring in Tunisia at the end of 2010, which in turn prompted similar antiregime demonstrations in southern Syria that rapidly spread throughout the country. It was further abetted by the vast lawless terrain created along Iraq's now unenforced and all but meaningless border with Syria when the last American combat units left on December 18, 2011.[19] Significantly in this respect, AQI had been all but vanquished by American forces by the time President Bush left office in 2009. Yet the surviving remnants of that jihadist organization still retained enough vitality to establish a new foothold in Syria, where they took full advantage of the opportunity presented there between 2012 and 2014 to rebrand themselves as ISIS. In the process they gained renewed strength in the now-raging Syrian civil war that Obama had refused to engage in after having first declared, and then reneged on, his avowed conviction that any use of chemical weapons by Syria's President Assad against innocent Syrian civilians, which actually occurred in August 2013, would constitute a "red line" for him warranting a forceful American response.

With respect to that latter abdication of leadership responsibility, President Obama had warned Assad in August 2012 in the sternest terms that "enormous consequences" would ensue for the Syrian dictator if he used chemical weapons against his own people. The following year, however, Assad ignored Obama's threat and did just that, killing more than 1,400 Syrian civilians using sarin gas.[20] Obama's ineffectual response was to cave in on his previously declared "red line" and instead to plead for the help of Vladimir Putin's Russia in seizing and dismantling Syria's chemical weapons stockpile, a vaunted "deal" that the Putin government never made fully good on.[21]

Yet even as ISIS grew further in strength to a point where it seized and occupied the highly symbolic Iraqi city of Fallujah in early January 2014, President Obama could still say of it dismissively a week later: "The analogy we use around here [in the White House] sometimes, and I think it

is accurate, is if a jayvee team puts on Lakers uniforms, that doesn't make them Kobe Bryant."[22] The following June, however, it became ever more difficult for him to sustain that blithe and indifferent attitude when ISIS forces, now equipped with expropriated U.S.-made Iraqi M1 Abrams tanks, up-armored Humvees, and heavy weapons suddenly and unexpectedly drove into the heart of Mosul, capturing and occupying Iraq's second-largest city and causing an estimated half a million residents there to flee for their lives. It was later reported that nine of those Abrams tanks provided by the U.S. government to the ISF had fallen into the would-be caliphate's hands.[23]

In rapid succession thereafter, ISIS took over additional towns throughout Iraq's Anbar Province and finally declared itself a caliphate now in control of large swaths of Syria and Iraq. Only when faced with a humanitarian crisis the following August to which he could no longer turn a blind eye did President Obama finally make a first tentative resort to American airpower on behalf of Erbil's Yazidi refugees in an eleventh-hour move to forestall an imminent catastrophe that would have been intolerable for any U.S. government. As one of the most well-informed scholarly treatments of the rise of ISIS aptly remarked in 2015 of this rapid devolution of events, had this been Iraq in 2008, "the Islamic State would have been defeated…. But in 2014, … the Americans were gone, and [Iraqi] government troops could no longer pacify the Arab Sunni hinterland in western Iraq."[24] Four years later the U.S. Army's exhaustive appraisal of that service's role in the Iraq war likewise recalled in hindsight that, almost predictably from 2012 to 2014, "Iraq slipped back into civil war, and the Islamic State in Iraq (ISI) regenerated fully into the new Islamic State in Iraq and the Levant (ISIL/ISIS), with the U.S. military powerless to stop either event."[25]

The Air War's Slow Start

In the early aftermath of the administration's parsimonious initial strikes against ISIS, briefly addressed in chapter 1, the bombing continued at first just sporadically from one day to the next, mostly in reaction to recurring tactical events on the ground and with the White House feeling no apparent urge to ramp up the effort's tempo and intensity. On the contrary, President Obama stressed even before the renewed bombing's first week had ended that "this is going to be a long-term project."[1] Not long thereafter, now three weeks into his still-desultory effort, the president conceded that "we don't have a strategy yet" when pressed by reporters as to his long-term intentions regarding the new challenge presented by ISIS.[2] Those two statements, taken together, during the first month of his initial response to a vile enemy largely of his own making through a succession of unwise leadership choices spoke volumes in testimony to his seeming lack of any personal sense of commitment to the unfolding U.S. responsibility in Iraq and Syria that now lay ahead. They also perfectly heralded the palpable lack of seriousness and determination on his part that would characterize his ensuing war against ISIS for at least its first year.

With White House approval for limited air strikes against ISIS targets in Iraq finally granted to CENTCOM in principle, General Pittard and his staff in the U.S. Embassy in Baghdad and in the CRF's associated strike cell at BIAP lost no time in putting that approval to work in search of a concrete plan of action for at least the near term. As he later recalled: "I wanted us to do our best to push the envelope of what was considered 'authorized' to give us maximum flexibility to target ISIS fighters. I directed our J3 operations officer, Marine Colonel Eduardo Abisellan … to push [a red 'no-penetration' line around Erbil] out as far west of Erbil as we possibly could while still trying to stay within the spirit of our commander-in-chief's guidance. I called [that] demarcation the Abisellan Line…. It was swiftly approved, [and] the Abisellan Line would become commonly referenced as it defined where we could and could not prosecute our air strikes on ISIS in the early days of the campaign."[3] As valiant and commendable an effort as this was on General Pittard's part to secure an expanded operating envelope in northern

Iraq within the strict constraints dictated by the administration during the bombing's earliest days, however, a U.S. Air Force F-16 pilot who flew repeated combat sorties in those initial strike packages later recalled that "while some strikes were better than none, this was an extremely frustrating and short-sighted use of airpower. Day after day I'd fly bombs into Iraq and fly them back out again, often times right over the top of easily identifiable ISIS strongholds, vehicles and checkpoints, and with zero interdiction or strategic application of our firepower, even though we had complete air superiority."[4]

An Initial Refusal to Get Serious

As the administration's halting initial air attacks against ISIS continued throughout August 2014 at a relative snail's pace compared to the intensity of previous American air wars going back to Desert Storm, the United States did expand the effort's makeup of participants by enlisting and leading an Arab coalition in striking targets not just in Iraq but now also in Syria, with attacks also carried out by supporting combat aircraft from Bahrain, Jordan, Saudi Arabia, Qatar, and the United Arab Emirates. Still, however, as the CRF later that month began "receiving constant reports of ISIS activity," its two-star U.S. Army commander subsequently recalled of that experience that "unfortunately, we were … only allowed by the presidential authorization to conduct air strikes in defense of Erbil and only when ISIS crossed the Abisellan Line…. [General Austin issued] a stern reminder that we had to stay within the guidance of the man in the Oval Office."[5] By the end of the effort's first month, although the coalition's pilots had flown 1,871 reported combat sorties in all against ISIS, only 280 of the strike sorties that got airborne had actually accomplished at least one weapon release, making for an average of fewer than ten target aim points struck per day. As General Pittard later remarked regarding that frustrating initial round of the air war, the rules of engagement "as emplaced by Washington and the Pentagon" for needed CAS attacks on behalf of the ISF "were incredibly stringent. So much, in fact, that we may as well have not even had airpower at hand."[6]

Of that exasperation felt so acutely by General Pittard and his staff in the CRF, the above-quoted U.S. Air Force F-16 pilot, Captain Balzhiser, likewise wrote in his personal journal after a long nighttime sortie on September 13, more than a month into the still-halting effort:

> It was rewarding finally to see tangible results [of our bombing] despite our leadership's best efforts to restrict our involvement…. However, we all still feel like we're fighting with one arm tied behind our back while hopping on one foot. It's been super frustrating at times. Let us take the gloves off for just two weeks and we will make being an ISIS fighter *very* undesirable. Let us do SCAR [strike coordination and reconnaissance within a defined box in which worthwhile potential targets are known or suspected to exist]. We can do our own CDE [collateral damage estimation]. We shouldn't have an O-7's [brigadier general's] approval to drop a 500-lb PGM [precision-guided munition] on a target that we've identified as ISIS, or worse, a target we are watching *actively shoot* friendly forces…. The Air Force leadership and our military more generally have become so top-heavy and centralized that our preached dictum of decentralized execution isn't possible, because there is no provision for the warfighters to make the decisions themselves. I'm sure the generals at the CAOC [Combined Air Operations Center, pronounced "kay-ock," at al-Udeid Air Base in Qatar] would take pickle-button [bomb-release button] authority into their own hands if they could. We should be striking 700 targets a week, not 20![7]

To be sure, when it came to the way it reported its daily bombing activities, CENTCOM was often its own worst enemy. After it eventually established a steady-state battle rhythm, CJTF-OIR's public-affairs spokesmen defined an air "strike" as "one or more kinetic events that occur in roughly the same geographic location to produce a single, sometimes cumulative effect for that location. So having a single aircraft deliver a single weapon against a lone ISIL vehicle is one strike, but so is multiple aircraft delivering dozens of weapons against a group of buildings and vehicles and weapon systems in a compound, for example."[8] That all-inclusive definition rendered the word "strike" totally meaningless as a practical measure even of CENTCOM's actual level of effort, let alone mission effectiveness, in its war against ISIS.

At long last, on September 10, President Obama announced what he billed as his "comprehensive strategy" for engaging ISIS, with an avowed intent to "degrade and ultimately destroy" the jihadist movement.[9] Yet his

resort to “degrade” as the most proximate goal of his slowly gathering effort against ISIS, with “ultimately destroying” it presumably to be left to his successor at some indeterminate future date, conveyed every impression of having been a carefully contrived rhetorical ploy intended to telegraph his unwillingness to pursue anything more than a minimalist response to the spread of the jihadist movement throughout Iraq, Syria, and beyond. Indeed, two months into his still-lethargic and directionless air effort, so infrequent were daily coalition air attacks against ISIS targets as publicly reported that CENTCOM, by one sardonic account, had “actually taken to issuing press releases to announce the dropping of two 500-pound bombs.” This early assessment went on to note that the only thing preventing the United States from mounting more determined air strikes against ISIS was the “lack of will … exhibited by the commanderin-chief who has claimed as his goal the eventual destruction of ISIS but refuses to commit the resources to achieve that ambitious objective.”[10]

In lending persuasive validation to that harsh indictment of the administration’s persistent reluctance to respond to ISIS’s continuing depredations with adequate force, General Pittard later recalled in his coauthored memoir that

> because of the limited authorizations for air strikes we’d been given, we couldn’t do anything about a lot of what we saw. We even had ISIS rocket and mortar attacks aimed at the U.S. Embassy and our joint operations center as well as our special operations forces on BIAP, but we were unable to retaliate. It seemed insanely timid to sit on our hands while Iraq was attacked in multiple locations from ISIS forces. I had to wonder what the Pentagon and White House staffers were thinking…. Our response to the ISIS threat was truly underwhelming. It was no way for the world’s last remaining superpower to lead. The reluctance of our president and Congress to take on ISIS with a full-on military response was embarrassing. The Kurds and the Iraqis were fighting for their very existence, and they were incredulous that we offered such limited assistance.[11]

Of this still-limited and palpably half-hearted combat performance, Anthony Cordesman wrote in early October 2014 that it “seems to be doing too little, too slowly, failing to have the impact needed in Iraq, and drifting

toward mission creep in Syria." He added that the administration's bombing effort to date was "so small by the standard of recent conflicts that it amounts to little more than military tokenism." Indeed, when compared to the earlier Desert Storm experience, Cordesman noted that the effort against ISIS as it had evolved up to that point now two months into it looked like "a statistical hiccup," suggesting that, if continued, it could "well be a warning that the [United States] is now embarked in leading and conducting a high-risk air campaign that will do too little and do it too slowly."[12] As for the administration's avowed game plan for conducting its still-halting effort, President Obama's fourth secretary of defense, Ashton Carter, who was sworn into office three months later, recalled in a subsequent reflection on the war experience that the administration's "messaging" for the endeavor that he had inherited "revolved around nine anodyne 'lines of effort,' or tasks," only two of which were the responsibility of the Department of Defense, with the others belonging "largely or entirely to other agencies…. It was a list," he remarked, "not a strategy."[13] With regard to Secretary Carter's having so quickly arrived at that concern, the U.S. Air Force chief of staff who was serving in the Pentagon at the same time, Gen. Mark Welsh III, later voiced his personal belief that conversations with the Joint Chiefs of Staff (JCS) had materially aided in leading Carter to that important realization, adding: "He was willing to listen to new ideas."[14]

As a testament bearing clear witness to these insider recollections, organized formations of ISIS combatants, manifestly undaunted by the administration's slow-motion bombing on the installment plan, continued their relentless advance in Iraq's Anbar Province, taking full advantage of one ISF collapse after another in the face of their sustained attacks. Not long after CENTCOM's episodic bombing began in early August 2014, ISIS combatants advanced on Haditha in the province's western sector and at the same time on Ramadi in the sector's center. The U.S. Air Force F-16 pilot quoted above who flew repeated strike sorties against those advancing jihadists later reported his frustration at how getting one target attack approval "took three hours despite a positive target identification and clearly observed hostile actions of ISIS forces on the ground."[15] In the end the ISF successfully defended Haditha, but by September and on into early October, ISIS had accomplished a succession of other military gains. In just three short days at the start of October, it succeeded in establishing a firm foothold

in most of Iraq's central Anbar Province. By one informed account, this enemy advance in just two months was a "huge victory" for ISIS's fighting forces, for it gave them "de facto control of Anbar, which they had been fighting for since January…. The ISF never proved capable of holding any area in Anbar, [and] the start of U.S. and coalition air strikes [two months before then was] not able to reverse the situation either."[16]

Yet another sign of Obama's palpable annoyance at having been saddled with an inconvenient new security challenge of his own making, as well as of his continuing refusal to come to effective terms with it, was the fact that his still-anemic effort against ISIS went unnamed for more than two months. In just one minor but nonetheless revealing example that well reflected his administration's indifferent view regarding what it had reluctantly set in motion in early August, a U.S. Air Force F-16 pilot who took part in the first approved air strikes recalled how CENTCOM had initially decreed that all sorties flown before the bombing's formal naming "would not count for decorations or Air Medals, since it 'wasn't actual combat' and not a named operation, just contingency flying. This despite our squadron's dropping somewhere around 150 bombs, helping save the Yazidis, defending the Haditha and Mosul dams, breaking the siege around Amirli, and so on. Which illustrated the complete confusion over just what the hell we were doing there. We could have done so much more, but we just watched ISIS do what they wished while we lurched from one humanitarian crisis to the next, not knowing what the desired endstate was."[17] Only on October 15, 2014, did CENTCOM finally declare that its effort against ISIS would be known both henceforth and retroactively as OIR, with that code name said to be "intended to reflect the … deep commitment of the U.S. and partner nations … to degrade and ultimately destroy ISIL [for Islamic State of Iraq and the Levant, the administration's preferred alternative name for the movement]."[18]

Despite that grandiose characterization, however, the ground truth five weeks into the bombing of ISIS was that CENTCOM had still conducted just 412 strike sorties against a still-expanding jihadist movement that now controlled some 50,000 square miles of Iraq and Syria, an area more than half the size of Great Britain, making for an average of only seven strike sorties actually flown a day. In contrast, during the same length of time, the allied coalition in Operation Desert Storm flew 48,224 strike sorties in all,

for an average of around a thousand a day. That contrast prompted two Washington defense analysts to suggest that the main underlying motivation behind the administration's approach to countering ISIS seemed to be "to apply the least amount of force possible while still claiming credit for doing something about Islamic State."[19] In commenting later on that stark contrast, the lead JTAC in Combined Joint Operations Center Baghdad (CJOC-B) during the campaign's initial phase attributed it to President Obama's having "only given approval for [strikes in] specific regions and missions at first as we watched ISIS run rampant all over the place with our hands tied."[20]

A Continued Slow-Walking of the Campaign

Three months into the administration's still-languid effort against ISIS, Anthony Cordesman reported that the desultory bombing was continuing to show only "slow and unstable progress" toward achieving the president's proclaimed near-term objectives. He added that the administration had spoken forcefully enough about its declared imperative of "degrading and destroying" the Islamic State, yet "without setting clear goals for what this actually means." He rightly noted as well that the administration's "very limited air campaign … came too late and was so publicly foreshadowed that key elements of the Islamic State were able to heed the [resultant] strategic warning and disperse and shelter in populated areas." In all, Cordesman concluded, the administration's claim to having a strategy in hand to defeat ISIS consisted of declared "intentions unmatched by clear plans and actions." He added that the situation in both Iraq and Syria had "moved beyond the point where 'spin' can substitute for substance."[21]

On this count, at the time Ashton Carter was confirmed by the Senate in February 2015 to become the next secretary of defense to replace former Nebraska senator Chuck Hagel, public pronouncements by U.S. military spokesmen were already characterizing ISIS as "halted" and "in decline."[22] However, Carter later recalled frankly in a retrospective assessment of the war that ISIS "was not yet halted" and that the United States still "lacked a comprehensive, achievable plan for success," which had made him "deeply concerned about the state of the effort." Because, in his judgment, the administration still lacked clearly articulated goals or a coherent military chain of command for the operation, the American public and important other constituencies worldwide "saw no plan to defeat ISIS and had little confidence in the campaign's success." He also added, equally frankly and

forthrightly, that in coming to appropriate terms with this assessed predicament, “we [in the administration and especially in the Department of Defense] took longer than we should have to get our act together.”[23]

Another informed observer writing five months into the administration’s still-tepid effort concluded that its vain attempt at applying a “strategy” for countering ISIS was still “not working” and that any truly serious endeavor toward that end would necessarily entail a need “to dispatch more aircraft, military advisors, and special operations forces [into the war zone], while loosening the restrictions under which they operate.” That comment further noted how the president was still not allowing “U.S. Special Forces and forward air controllers to embed themselves in the Free Syrian Army, Iraqi Security Forces, Kurdish Peshmerga, or in Sunni tribes when they go into combat,” as his predecessor had more wisely allowed for precisely such essential U.S. ground involvement with the indigenous anti-Taliban Northern Alliance during the major combat phase of Operation Enduring Freedom in Afghanistan in late 2001. “This lack of eyes on the ground,” the writer concluded, “makes it harder to call in air strikes and to improve the combat capacity of U.S. proxies.”[24] The above-quoted U.S. Air Force F-16 pilot who took part in those early strikes later expanded on that assertion by saying that the absence of embedded JTACs early on “made it harder for us to be sure of what we were engaging and to battle-track friendly forces to conduct CAS [close air support].” He further recalled that “there was a whole litany of targets outside of close proximity to friendly forces that were identifiable from the air via multiple intelligence sources that we could have engaged.”[25]

Secretary Carter further recalled that his first assessed task upon assuming office, before he could “actually do anything” to impart a more promising direction and focus to the administration’s still-foundering effort, was “to change the way we talked about it.” He was especially discomfited by the White House’s seemingly lame avowed intent to “degrade and ultimately defeat” ISIS, a declared goal that, to his mind, had not adequately spoken to “the urgency of the task.” During Carter’s Senate confirmation hearing on February 4, 2015, when pressed by the Senate Armed Services Committee’s chairman, John McCain (R-Ariz.), to share his personal opinion regarding the White House’s preferred declaratory line, he responded by suggesting “a lasting defeat” of the jihadist infestation as a more fitting aspiration for the administration’s strategy, which he felt sounded more

decisive in both message and tone than the administration's preference for "'degrade' and other weaker verbs."[26]

Carter also was bothered by the administration's continued insistent denial that American military personnel operating in Iraq and Syria in support of indigenous forces in both countries were engaged in "combat," any frank admission of which would have put a decided lie to the president's baseless conceit that he had "ended the Iraq war" for the United States by having pulled out all the remaining U.S. troops from there at the end of 2011. The actual fact of the matter, Carter later wrote in his retrospective assessment of the still-ongoing war, was that from the effort's very start, there had been an ever more intensifying bombing effort under way "in which U.S. and coalition aircrews were in combat every day," as was, Carter added, MSgt. Joshua Wheeler, USA, the first American service member to be killed "in direct ground action against ISIS" when his unit was advising a Kurdish Peshmerga SOF team that was planning an attack on a compound where ISIS had been holding prisoners with the intent to execute them.[27]

Not long after the loss of Sergeant Wheeler, an especially grim and memorable instance of ISIS's uniquely barbarous character was the movement's globally publicized immolation of a captured Jordanian F-16 pilot who had been forced to eject over Syria in late December 2014 after his aircraft had experienced a mechanical failure during a combat mission near Raqqa. Less than a month later the pilot, 1st Lt. Moaz al-Kasasbeh, was doused with gasoline by ISIS jihadists and burned alive in a locked cage. That horrific act of brutality was televised as it occurred and subsequently replayed around the world by ISIS propagandists.[28] As was later recalled by the CAOC's director of combat plans, Jordan led a well-publicized strike against a variety of ISIS targets on the first anniversary of the event. "Typically," he noted, "they were a bit limited in their participation, but they were very proactive regarding wanting to conduct and lead this strike. It was a matter of national pride, and looking back on it now, I'd say it was the beginning of an increased coalition effort."[29]

In the meantime, eight months into the administration's still slowmotion bombing effort against ISIS, commenting on a map released by the Pentagon in early April 2015 purportedly showing that the jihadist movement was no longer able to operate in 25 to 30 percent of the populated areas of Iraq and Syria that it formerly held, watchful critics dismissed that claim as

misleading in that it had failed to show other parts of the two countries in which ISIS had made substantial gains since the bombing began the year before. As for the Defense Department's failure to show the continued ability of ISIS to conduct offensive operations in those parts of Iraq and Syria that it still controlled, a visiting scholar at the Brookings Institution's Doha Center in Qatar, Charles Lister, concluded that "in this respect, I'd say ISIS has been very minimally challenged since August 2014."[30]

As the first year of OIR was drawing to a close four months later, U.S. officials were anticipating that the ongoing air strikes against ISIS might have to continue for at least three more years.[31] The following August, by then a full year into the still-constrained bombing, the chairman of the JCS, Gen. Martin Dempsey, USA, went further yet and suggested that vanquishing ISIS once and for all could eventually take up to *twenty* years.[32] Given the administration's remarkably low level of apparent effort up to that point, it was not hard to see why. As of mid-autumn 2015, U.S. and coalition aircrews had flown in all more than 57,000 combat and combat-support sorties into Iraq and Syria against ISIS up to that point, including nearly 8,300 strike sorties that had reportedly attacked some 16,000 individual target aim points. That made, however, for an average of fewer than 20 strike sorties flown a day over a course of 450 days, at an assessed total cost of $5 billion, or $11 million a day, for the remarkably little significant gain they had achieved.[33] Nearly the same level of kinetic output was reached within the first week of Operation Desert Storm in 1991.

To be sure, as the most senior JTAC assigned to CJOC-B at the time later rightly pointed out, one cannot directly compare strike statistics against an organized enemy engaged in linear combat, as was Saddam Hussein's military during the first Persian Gulf war, with those for a more disaggregated and asymmetric opponent like ISIS because the contrasting target sets are "massively different," with the latter presenting "unique challenges that limit the number and type of strikes that can occur without causing enormous civilian casualties."[34] Yet even with that important qualification duly noted, syndicated columnist Charles Krauthammer aptly concluded regarding OIR's continued sparse bombing that "Obama is doing just enough … to give the appearance of motion, yet not nearly enough to have any chance of success."[35]

Finally, in mid-September 2015, now more than a year into the campaign, CENTCOM's four-star U.S. Army commander, General Austin, testified for the first time before the Senate Armed Services Committee on the progress of OIR. By most subsequent recollections, it was an uncommonly rocky colloquy. Austin told the senators that despite what he acknowledged to have been "some slow movement at the tactical level," the overall capability of ISIS had been "disrupted" by the campaign's efforts. He further claimed, notwithstanding overwhelming evidence to the contrary, that the coalition's air attacks had been "extraordinarily effective," thanks to U.S. AFCENT allegedly having maintained what he called "an unprecedented tempo in targeting [ISIS's] warfighting capability." Finally, mischaracterizing the enemy as "a terrorist organization that … was attempting to behave like a conventional military" when in fact it had, from the very start of its rise, been operating precisely like a conventional army, Austin claimed that the coalition's air strikes had "effectively disrupted [ISIS's] command and control, interrupted the resourcing of their operations, and attrited their forces and senior leadership," having thereby "effectively halted [ISIS's] advance in Iraq."[36]

That lame and manifestly unconvincing performance proved to be too much for the committee's chairman, Senator McCain, who responded afterward with undisguised exasperation that he had "never seen a hearing … as divorced from the reality of every outside expert" who had hitherto paid careful attention to the campaign's progress.[37] McCain added: "I've been a member of the committee for nearly thirty years, and I've never heard testimony like this. Never." Other senators who had heard General Austin's testimony called the administration's strategy "a joke," "an abject failure," and in urgent need of revision, with even Democrats normally supportive of President Obama said to have been "taken aback by the missteps in the ongoing ISIS campaign."[38]

In all fairness to General Austin and to the hobbled political situation that he found himself in, Senator McCain later rightly spotlighted President Obama rather than CENTCOM as having been the principal source of the imposed drag on the campaign's robustness, declaring frankly and correctly: "There are recommendations from … commanders, including from CENTCOM, that end up in the black hole called the White House and the [National Security Council]. I don't blame General Austin and CENTCOM

… they're just funnels." As if to reinforce McCain's appropriately harsh judgment, General Pittard, who, as noted earlier, had been appointed as CENTCOM's Joint Force Land Component Commander for Iraq in June 2014 in response to ISIS's initial incursions from Syria into Iraq, recalled how Austin had been caught "between a rock and a hard place" during the halting start of the administration's response to the rise of ISIS, noting further that "when I would send him things [saying], 'we've got to strike Syria,' he would calmly say, 'We're not authorized to do that.'" When it later became undeniable in early August 2014 that ISIS combatants were about to overrun Erbil, General Austin finally gained the needed approval from the White House for AFCENT to conduct air strikes against advancing enemy formations in order to protect the city. As General Pittard later recalled: "It was late Baghdad time. He called, got authority, and within a couple of hours, he called back and said, 'Execute.'" Pittard added: "That was my best day there."[39]

All the same, in a candid remark that reflected the campaign's overall failure to have come even close to approximating Desert Storm's casebook performance after more than a year of half-hearted trying, the former deputy director of the CIA, Michael Morell, declared on CBS's *Face the Nation* in November 2015: "I think it's now crystal clear to us that our strategy, our policy vis-a-vis ISIS, is not working."[40] Four days later, even the Democratic Party's presidential nominee, Hillary Clinton, joined a chorus of other Democrats in breaking with the president and arguing for "a new phase" in the campaign, adding in an address at the Council on Foreign Relations that the time had come to "intensify and broaden our efforts to smash the would-be caliphate and deny ISIS control of territory in Iraq and Syria."[41]

Making matters worse yet, the lineup of allied participants in the air war up to that point entailed a coalition far more in name than in fact. Since the administration's bombing began ever so tentatively in early August 2014, fourteen foreign air arms had taken part at one time or another in strike missions against ISIS targets in Iraq and Syria by the end of 2015, including those from Australia, Bahrain, Belgium, Canada, Denmark, France, Jordan, Morocco, the Netherlands, Qatar, Saudi Arabia, Turkey, the United Arab Emirates, and the United Kingdom. By far the majority of those strike operations, however, were conducted by the United States, which had flown

94 percent of all strike sorties into Syria and 78 percent of those into Iraq up to then.[42]

Furthermore, as a knowledgeable senior CAOC staffer more than a year into the campaign later explained helpfully in this regard, it bears remembering that

> every coalition country had caveats about where, when, and how they could employ [their combat assets]. Some countries' leaders only allowed them to fly and operate in Iraq, or in certain part of Iraq or eventually just in Syria, or just to provide ISR or command and control. Trying to integrate the entire coalition in operations was akin at times to a game of jenga [which features building an ever-taller and more unstable tower made up of fifty-four wooden blocks], and the coalition's face was often as important as the effect we were seeking to achieve in a strike. In addition, in the backdrop of all this was the desire to bring in and integrate Middle Eastern countries whenever possible.[43]

One significant breakthrough toward further enhancing the effectiveness of CENTCOM's often problematic coalition air war against ISIS worth spotlighting was the Turkish government's eventual consent in late July 2015 to end its initial reluctance to play a more proactive role as a NATO ally by allowing American combat aircraft, both manned and unmanned, to operate from its eastern air base at Incirlik and rescue aircraft and helicopters to fly out of Diyarbakir once it became clear that CENTCOM would soon be launching operations deep into Syria.[44] That decision was rightly described by one administration official as "a game-changer." With those bases located much closer to the Syrian border than those in Kuwait, Jordan, and the Persian Gulf states from which CENTCOM's air strikes had hitherto been launched, the net result was a significant increase in the amount of time American combat aircraft and ISR platforms could remain on station over Syria. It also meant a substantial reduction in the response time for manned aircraft to react effectively to the real-time generation of tactical intelligence information.[45] Figure 4.1 shows the principal bases in the region that were used by coalition air forces in OIR, as well as by the Russian Air Force in the Syrian civil war.

First Signs of Greater Headway Soon to Come

On the plus side of this otherwise undistinguished latest chapter in the history of air warfare as it had unfolded up to that point, after seventeen months of mostly low-impact bombing, reconstituted units of the ISF finally succeeded by the end of 2015 in recapturing Ramadi, the capital city of Anbar Province that had been in ISIS's grip since the preceding May. Of that encouraging development, the U.S. Army colonel serving as CENTCOM's spokesman for OIR proudly announced that "we're hitting them with combination punches now. They're getting hit in multiple places simultaneously."[46] He added that coalition air strikes had been responsible for 80 percent of that success story and that it had been the air effort that had "really … enabled the Iraqi forces to move in."[47] That good news, however, as welcome as it was as a first clear sign of tangible progress at long last, raised the obvious first question as to why such a more forceful and determined approach toward combating ISIS had not been pursued by the administration from the campaign's very start.

Indeed, more than a year into the effort, the administration was still disallowing any deployment of U.S. JTACs all the way up to the actual forward battle lines in direct support of engaged ISF, Peshmerga, and Free Syrian Army (FSA) combatants to validate ISIS target nominations and to call in precision air strikes against them. Such highly skilled personnel had, to be sure, finally been sent to the war zone, but they were only assigned to two rear-area strike cells at BIAP and in Erbil, formally called Combined Joint Operations Centers Baghdad and Erbil (CJOC-B and CJOC-E), to monitor full-motion video feeds of target areas of interest and to offer tactical advice from those locations to the military lawyers and overseeing general officers on duty there who would ultimately vet and approve any actual requested target attacks.[48] As for the plus side of that continued administration ban on the forward deployment of U.S. JTACs during the campaign's first year, the lead JTAC in CJOC-B at the time pointed out that beyond the constant streaming video feeds,

Fig. 4.1. Key Air Bases in the OIR Region *Zaur Eylanbekov*

> we also had full radio communication and control of all air assets in theater, and we had direct links to our forward Iraqi and Kurdish ground forces who were being advised, assisted and enabled by our more forward SOF teams. We actually prosecuted more strikes in this manner than if we'd put all the JTACs we had in theater out forward, because we could be in many places at once throughout the day. And from a strike cell, you have a lot of visibility on all the air assets and combat operations in theater, whereas when mobile on the ground as a JTAC, you are tunnel-visioned on only your specific operation and on the air assets assigned to you for the operation.

In those circumstances, he added, "a balanced approach became the key."[49]

By one informed account, those two strikes cells, organic adjuncts of CJTF-OIR's land component, represented "an extra-doctrinal arrangement" that had been expressly set up in Iraq by CENTCOM in early 2014 "to slow down the [eventual] strike process and ensure that tactical expediency did not overtake the [Obama] administration's strategic imperative to avoid civilian casualties."[50] Overseen for the campaign's first year by U.S. Army and Marine Corps colonels with no past experience at commanding kinetic air operations, the two entities that were improvised and fielded on such

short notice before the start of OIR ultimately underwrote an important air tasking and asset management function that, in earlier wars, had traditionally fallen to AFCENT's CAOC in Qatar. It remains to be determined how those two novel ad hoc CJOCs first forward-deployed as adjuncts of CJTF-OIR's land component and largely proven in the protracted air war against ISIS will ultimately be accommodated in formal U.S. joint doctrine when it comes to arranging for the most effective future application of coalition airpower. For sure, however, for more than a year into the CJOC-dominated air war, senior leaders at CENTCOM and in Washington would not allow AFCENT's separate CAOC to strike deep for strategic effect into ISIS territory and at its known strongholds in Syria, and senior airmen subordinated to CJTF-OIR's U.S. Army commander were promptly called on the carpet and chastised whenever they might deign to do so on their own.[51]

It was about at that already well-developed stage of the campaign, as General Welsh later recalled, when his deputy chief of staff for ISR, Lt. Gen. Bob Otto, first approached him with his long-gathering concern that CENTCOM was targeting ISIS all wrong and that instead of being inappropriately addressed as merely a reincarnation of the previously defeated Iraqi insurgency, the jihadist movement should be dealt with more forcefully and expeditiously as the incipient state-like entity that it actually was. Roughly concurrently, General Welsh said that he had just recently heard a high-level briefing on CENTCOM's evolving campaign plan that "essentially went step-by-step up the river valleys, with airpower included purely as dedicated support to a ground campaign." By way of prompt follow-up to his growing concern over this flawed projection of CJTF-OIR's continuing plan for its effort against ISIS, he added, his "conversations later both with the JCS chairman and in the Tank [the JSC conference room in the Pentagon] helped to paint a broader possibility."[52]

Toward a More Effective Air Effort

Fortunately for the longer-term prospects for Operation Inherent Resolve (OIR), repeated terrorist outrages conducted or inspired by ISIS, both in the immediate region and worldwide in 2015, finally forced the Obama administration to expand its roster of approved targets to a point where ISIS command centers in the heart of Raqqa in Syria and oil-bearing ISIS trucks on the move in quest of revenue for the would-be caliphate finally became fair game for American and coalition aircrews. As two U.S. Air Force intelligence officers who were directly involved in the day-to-day planning for AFCENT's anti-ISIS operations reported of that eventful stretch in time, "while previous operations were primarily in support of coalition ground units fighting IS forces," CJTF-OIR "empowered [the command's Combined Force Air Component Commander, or CFACC] to launch deliberate strikes aimed at infrastructure, logistics, and governance nodes deep within IS-held territory…. Similar strikes on oil and financial centers, notably in Mosul in early 2016, led to IS cutting pay to their fighters and [to] decreased funding available to conduct operations." By seeking "maximum strategic effect through 'deliberate targeting' and target systems analysis," this belated ramped-up effort quite properly "sought [to target] the control, infrastructure, and governing hierarchy of a state," which is what ISIS essentially was, for all intents and purposes. That long-overdue shift in emphasis, they added, "also enabled the Air Force to move from a role as a supporting entity for ground forces to one focused on discovering and disrupting IS critical support networks necessary to organize, train, recruit and execute the group's strategy"[1] General Welsh later pointed out that this shift in targeting emphasis directly reflected General Otto's by-then sustained interaction with AFCENT toward that end.[2]

The Positive Impact of New Leadership in the CAOC

The main mover behind this pivotal change for the better in the CAOC's targeting emphasis was CENTCOM's second CFACC for OIR, Lt. Gen. Charles Q. Brown Jr., who assumed that position in June 2015 after the air war had already been under way for more than ten months. As the chief of his Combat Plans Division, Col. Jason Rueschhoff, later recalled in this

regard, “General Brown was the impetus behind this moving of the fight deeper, focusing on strikes beyond the [Army’s] Fire Support Coordination Line and understanding the reality of what the ground forces needed in the near term (on-call CAS [close air support]) as opposed to what they would need in the longer term (deep air interdiction against the most lucrative ISIS targets).”[3] The only unfortunate aspect of this otherwise most welcome shift in targeting emphasis was that the Obama administration and CENTCOM, including most notably the latter’s air component before General Brown’s arrival, had already experienced nearly a year of missed opportunities and therefore had allowed ISIS to wreak even further havoc throughout Iraq and Syria by having waited so long to recognize and accept the need for this long-overdue move.

Indeed, just a few weeks after the ISIS-planned attack on the popular Bataclan nightclub in Paris on November 13, 2015, that killed 130 innocent civilians and wounded hundreds more who were inside, the administration cranked up the intensity of its air strikes to the highest level they had ever seen since the effort began in early August the year before.[4] That significant escalation was foreshadowed earlier the same month when the administration finally approved the forward deployment of American SOF teams into Iraq and Syria to support the ISF and rebel Syrian forces combating ISIS. Secretary Carter promised the U.S. Congress that the air war in Syria would soon further intensify “with a higher and heavier rate of strikes,” including more targeted attacks on identified ISIS leaders and on ISIS-controlled oil fields and oil production facilities that represented one of the movement’s main financial lifelines.[5]

With respect to the ISIS-instigated carnage in Paris on November 13 in particular, just two nights thereafter, starting at 7:50 p.m. local time on November 15, the French Air Force launched a massed strike by a dozen Rafale and Mirage 2000 fighters against known and targeted ISIS assets in the movement’s self-avowed capital of Raqqa. The targets that were attacked included a terrorist training camp, ajihadist recruitment center, an ammunition depot, and a confirmed ISIS command post. During the first five days after those initial retaliatory strikes were ordered from air bases in Jordan and the UAE, some seventy combat sorties were flown by French Air Force fighter aircraft against ISIS targets. In addition, by a stroke of good fortune just three days before the ISIS attack in Paris occurred, an

American remotely piloted aircraft (RPA) orbiting over Raqqa and armed with Hellfire missiles finally succeeded, thanks to CJTF-OIR's receipt of a timely real-time tactical intelligence tip, in geolocating and killing Mohammed Emwazi, more commonly known as "Jihadi John," a British national of Arab descent who had gained international notoriety not long before after the release of a gruesome video showing him beheading an innocent American Peace Corps worker in Syria.[6]

By early 2016 CENTCOM at long last began supporting a gathering initiative by the ISF to retake Mosul from ISIS's control in Iraq and concurrent efforts by the SDF to advance against the movement's proclaimed capital of Raqqa in Syria. At the end of February that year, the newly appointed chairman of the JCS, Gen. Joseph Dunford, USMC, declared that "the operations against Mosul have already started…. We're isolating Mosul even as we speak—the same thing with Raqqa. So it is not something that will happen in the deep, deep future." On that count, Brett McGurk, the special presidential envoy for the global coalition to counter ISIL, added: "We are focused on eliminating the enemy in Raqqa every single day. We're [now] doing air strikes there constantly…. We know more now [about ISIS positions in Raqqa] than we ever did before, and we're beginning to constrict [the coalition's] hold on Raqqa."[7]

As for how the supporting U.S. SOF teams and JTACs working with engaged ISF and Iraqi Counter-Terrorism Service (CTS) combatants facilitated the latter's ongoing operations by imparting to those troops innovative techniques and procedures promising a real combat payoff, the lead JTAC in CJOC-B in one instance in early 2014 came up with the novel idea of giving CTS troops an application for their smart phones that allowed them to send him accurate target information that he could then relay to the JTACs serving in the strike cell in Erbil. In this novel arrangement the CTS teams would snap photos of readings on their handheld Global Positioning System (GPS) navigators to show their target's location. They would then take moving-map screen images depicting their own location, along with a known azimuth and distance to their intended target. If possible, they would also then take a cell phone photograph of the target. The screenshots were added insurance to minimize any chance of sending a misread or mistyped coordinate.[8]

Yet another inspired aid to establishing an ISIS target's location with high confidence was also offered later on in 2014 by one of CJOC-B's assigned SEALs, who suggested the ingenious idea of instructing Iraqi tank commanders to point their tank's barrel at the enemy location as soon as they reported taking fire. The strike cell would then immediately redirect airborne sensors to the identified ISIS locations instead of waiting for a relay of the information through the Iraqi operations center. As was later recalled by General Pittard's most senior JTAC, Master Sergeant Bryant, "the tactic worked perfectly. The Iraqi commander maneuvered the M1 tank and its barrel like a boss, pointing the cannon at every ISIS fighting position he needed us to strike. As soon as we'd see the Iraqi tank maneuver and point its barrel in another direction, we'd direct our drone sensor and inevitably pick up ISIS ground fire directed toward the Iraqi forces. With that overt a verifier, we knew we were looking at an ISIS fighting position."[9]

Yet even with American SOF teams now forward-deployed to the battle lines in Iraq at long last, including a new Expeditionary Targeting Force made up of specially trained operators that had recently been spotlighted by Secretary Carter, the end of ISIS's physical presence in the region was still nowhere near in sight. Notwithstanding General Dunford's confident assurance that this long sought-after goal would not be achieved "in the deep, deep future," presidential envoy McGurk later cautioned in a subsequent interview: "I don't want to leave any sense that we've turned a corner or anything like that." McGurk added that with regard to the administration's overall determination to defeat ISIS globally, "we're talking [about] a multi-year campaign."[10]

A new high in the monthly number of bombs dropped on ISIS targets up to that point was reached in November and December 2015, when 3,227 were delivered in November and 3,139 in December, as many as half of those by B-1 bombers capable (with multiple inflight refuelings) of loitering over the battlefield for ten to fourteen hours in search of on-call targets. More than 90 percent of those strikes were so-called dynamic rather than deliberate attacks, meaning that they were conducted against targets that had been detected and nominated for attack in real time by overhead MQ-1 and MQ-9 RPAs and sometimes by fighters and bombers via their electro-optical imaging targeting pods and then verified by forward

observers on the ground, or vice versa in some cases, rather than having been deeply researched beforehand and then prebriefed to the aircrews.[11]

A B-1 aircraft commander and Weapons School graduate offered an especially colorful snapshot of this long-overdue ramping up of the campaign's effectiveness at the strategic level when he described seeing "some dramatic changes in targeting from November of 2015 to January of 2016 [as] we began targeting ISIS revenue." One lucrative target

> was a bank in Mosul containing millions in currency that was being used by ISIS to pay its fighters. As I understood the target, the vault was located on the bottom floor, and a conventional weaponeering solution might not give us the desired effects. Knowing this to be the case but not having the preplanned weaponeering solutions available, we did our best to quickly devise an optimized delivery solution in the jet using two GBU-31v3 JDAMs. The resulting impacts not only cracked the safe but also sent a plume of burning currency nearly one hundred feet into the air. If nothing else, [this experience] proved just how flexible the B-1 and its crews had become.[12]

The same B-1 pilot also well described a dynamic target attack in early January 2016 on a day

> that started out as a disappointment, because a preplanned strike that I had been working on for a while was removed from the schedule due to some delays in our approval processes…. That being the case, we started trying to make the best of our situation by using a combination of our radar and targeting pod to provide whatever SA [situation awareness] we could to the strike cell. After what seemed like hours of monotonous scanning, I came across what appeared to be some deep ruts in the landscape that quickly departed the prepared road surface and appeared too large to have been made by a truck. Continuing down-track by about a kilometer or so revealed what appeared to be an [ISIS-operated] M1 Abrams [tank] covered in foliage and attempting to sneak about the area undetected. After confirming the target with the JTAC, a nine-line [radio-transmitted voice directive] was executed, and a GBU-31 found its way into loosening the turret of said M1.[13]

Yet, despite such examples of real-time aircrew flexibility at the tactical level, CENTCOM's continuing effort after more than a year of determined but still politically encumbered bombing had yet to come close to attaining the magnitude of a bona fide military campaign as that notion is typically understood by military professionals. The most recent official dictionary of military terms published by the U.S. Department of Defense defines a campaign as "a series of major operations aimed at attaining strategic and operational objectives within a given time and space."[14] As early as just three months into his intermittent bombing endeavor, President Obama sought to portray it as "a systematic campaign of air strikes."[15] Yet nothing in CENTCOM's continuing flail against ISIS with episodic air attacks either then or at nearly any other time during Obama's incumbency could be rightly described as "a series of major operations" driven by a well-defined strategy aimed at seeking achievable goals on a realistic timetable. On the contrary, its vague assigned charter simply to "degrade and ultimately destroy" ISIS remained about as nonspecific and indeterminate a mission statement as one could possibly imagine.

The seeming pointlessness of much of the early bombing from a strategic-effectiveness perspective was well captured in this recollection by the same B-1 pilot quoted above when his squadron began flying daily air tasking order mission lines in July 2015, still less than a year into CENTCOM's effort against ISIS:

> We started seeing that perhaps not all of the targets we were hitting in Iraq made sense, and the crews started to complain. Rather than hitting what we would typically consider targets of operational importance, crews found themselves doing "terrain denial," which essentially amounted to cratering roads so that the insurgents didn't have them readily accessible. These taskings were quickly met with some pushback from us, and they eventually evolved into what I can best describe as our "urban renewal" period…. We essentially turned into an airborne artillery piece with a few moving targets sprinkled throughout the day.[16]

Commenting in retrospect on such often questionable use of coalition airpower, a U.S. F-16 pilot who had experienced similar frustrations later remarked: "Terrain denial can be an excellent tool, but I found that it was used too much and in situations that didn't warrant the munitions expense.

One time I dropped a GBU-39 to ‘terrain deny and suppress’ a mortar position south of Sinjar in September 2015. I doubt whether anyone even heard it go off. If you want to stop the mortar from firing or force the team to move, do it right.”[17]

Another negative consequence of the administration’s protracted servicing of a multitude of lesser ISIS targets while forgoing more lucrative ones, thanks to its all but preclusive no-civilian-casualties ROE, was that after nearly two years of that low-productivity effort, CENTCOM had expended more than 41,500 expensive precision-guided munitions (PGMs) in all, forcing the Department of Defense to begin drawing from munitions stocks in other regional combatant commands around the world in order to keep satisfying CENTCOM’s munitions requirements. The Pentagon had not anticipated such an impending drawdown when it submitted its munitions requirement projections to Congress three years earlier. It also, as former Air Force chief of staff General Welsh recalled, had not predicted another need to supply allies with precision weapons. Worse yet, he added, for numerous preceding years, Congress would not allow the services to pre-stock such munitions against anticipated future usage rates, thereby obliging all services to expend PGMs as contingency needs required and then to replenish them during the next budget cycle. That restriction was not lifted until 2016 after Operation Inherent Resolve was already well under way.[18] The two unexpected requirements noted above forced Secretary Carter to ask Congress for more than $1.8 billion to procure another 45,000 replacement PGMs.[19]

It bears adding here, however, that this mounting shortfall in precision munitions worldwide never seriously threatened AFCENT’s day-to-day operations against ISIS. Partly this good-news story resulted simply from careful management of precision weapons use by both the CAOC and the involved units as the impending munitions shortages loomed ever larger. As the shortfall issue became increasingly apparent in mid-2015, General Brown’s combat plans director recalled that mission planners

> recommended different employment considerations to help slow the drain on the weapons. We reiterated to the pilots and aircrews that if the best weapon to use for a given target was the satellite-aided GBU-38 500-lb JDAM, then they should use it. If, however, a GBU-12 500-lb laser-guided bomb or a different weapon would

> work, to use it instead. It wasn't an ideal situation to put yet another decision on the backs of already overworked aircrews, but it was necessary at the time. We also pulled some weapons from different stockpiles around the world. Ultimately, however, we feared we were just delaying the inevitable unless we could increase our supply organically.[20]

Looking back on that experience, the lead JTAC in CJOC-B at the campaign's start later recalled how "in 2014 we were dealing with shortages, and at the end of 2015 when I was running strike operations in Syria we were *still* facing shortages—a gigantic logistical failure on the part of our military leaders," all of whom were urging both the strike cells and the CAOC to "do more strikes" while at the same time "complaining to us JTACs that we were using too many of particular munitions," even "calling us directly if we used two missiles instead of one to hit a group of moving ISIS fighters."[21] An F-16 pilot who was often supported by that same JTAC in 2014 and 2015 later voiced the same complaint, insisting emphatically that "we were in a state of perpetual shortage. We've got plenty of weapons, yet we're still trying to tell a pilot or JTAC which weapon to drop to manage the stockpile. Such micromanagement was frustrating. Stop telling the tactical experts how to do their jobs. Give us an endstate and a desired effect and we'll weaponeer correctly."[22]

All in all, President Obama's reluctant counteroffensive against ISIS took more than a year of halting and only episodically effective bombing before it finally entered a more intensified phase, at which time the ROE for air attacks in Syria and Iraq were finally relaxed to a point where CENTCOM's strike planners could now consider a negotiable number of civilian casualties per target attack if those prospective casualties were deemed to be proportionate to the assessed strategic importance of the target. Before that shift, as was later acknowledged by Col. Peter Mansoor, USA (Ret.), "the standard that the coalition air campaign had to meet was so high in terms of not causing civilian casualties that they would often pass by targets of significance."[23]

Delegated Strike-Approval Authority and More Relaxed ROE

Throughout the first year of Operation Inherent Resolve, final authority to approve any air attack that might result in inadvertent civilian casualties remained at the four-star level in CENTCOM's headquarters at MacDill

AFB, Florida. That iron rule was a major factor in accounting for the maddening slowness of the administration's initial bombing to register any lasting results against ISIS. A major breakthrough in the campaign's day-to-day conduct, however, occurred in September 2015 when CENTCOM, with express White House consent, finally delegated greater target-attack approval authority down to the commander of CJTF-OIR in Kuwait, Lt. Gen. Sean MacFarland, USA. In turn, MacFarland pushed that target engagement authority (TEA) still further down to his subordinate Army brigadier generals who oversaw CJOC-B and CJOC-E. Nearly a year later, when the U.S. Army's XVIII Corps relieved III Corps as the designated CJTF-OIR in August 2016, Lt. Gen. Stephen Townsend, the new CJTF commander, delegated TEA even further to his full colonels serving in the two CJOCs. As one well-informed account later recalled, that move at long last "increased the number of officers who could approve strikes, thereby ensuring a 24-hour TEA presence in the CJOCs."[24]

In addition, although proposed target attacks that were known or believed to entail the highest number of possible civilian casualties still required the prior approval of the White House, targets were now cleared to be struck in accordance with a sliding scale of allowable civilian fatalities depending on the targets' assessed military value and location. In this more permissive ROE regime, some target categories might allow for as many as ten civilians being inadvertently killed if the target was assessed as being of sufficient strategic importance. This heightened administration willingness to tolerate some inadvertent civilian losses, up from the ironclad zero-casualty rule hitherto insisted on, was said to have been in direct response to and support of Secretary Carter's revised strategy announced in October 2015 that focused on recapturing Ramadi in Iraq and on an accelerated effort to kill or capture ISIS leaders in Raqqa.[25] As was later recalled by the lead JTAC in CJOC-B throughout the campaign's first year, this raising of the noncombatant casualty cutoff value for civilians "for the fights in the big urban centers in Iraq and Syria … was the only way we could effectively prosecute strikes" in those target areas.[26] By General Welsh's later recollection, substantial credit for this eventual about-face was attributable both to Secretary Carter and to the JCS chairman, General Dunford, who together worked hard to enable a more realistic discussion of

these issues within the president's inner circle and more broadly throughout the Washington policy community.[27]

Remarkably, however, it still took nearly two years into the administration's continuing effort against ISIS for it to realize, at long last, that its gradualism and associated insistence on zero civilian casualties begged for easing so the campaign might begin effectively servicing more important targets such as ISIS cash coffers and the organization's oil infrastructure that had, from the very start, been financing the movement's successes in recruiting new members and retaining its grip on substantial portions of Iraq and Syria. One major breakthrough toward that end was the final transfer of much of the former target-approval authority from CENTCOM's headquarters to those senior commanders further down the chain of command in the actual war zone. Tacitly acknowledging this long-overdue development that should have occurred from the campaign's very start, General Brown said: "We're hitting them where it hurts a lot more than we were in the past. Every bomb now has a greater impact."[28]

To his credit, almost from the first day since he assumed command of the air war in June 2015, General Brown worked aggressively to streamline the target-approval process, to seek better inputs toward that end from the intelligence community, and to add more important targets to the daily target list generated by the CAOC, such as known ISIS cash reserves and oil-related facilities, rather than continuing to waste costly sorties and munitions on lesser designated targets, such as individual enemy vehicle checkpoints and gun positions. As General Welsh, the Air Force chief at the time, later noted, General Brown was greatly aided in this ultimately successful endeavor by the extensive target options and target system analyses that were provided by General Otto and his staff of Air Force intelligence experts both in the Pentagon and elsewhere around the world.[29] Up to that point most of the mission lines being flown in AFCENT's daily air tasking order had been devoted to providing dedicated combat air patrol (CAP) orbits intended to be on call at a moment's notice for indigenous friendly troops engaged on the ground, irrespective of what may actually have been expected and called for in the covered area.

Over time, as General Brown's chief of combat plans later pointed out, these daily CAPs became viewed as

> a given [by CENTCOM's land component], but with limited air assets in the theater, these CAPs were in direct competition for other needed air assets to perform deeper strikes at the enemy's key nodes. From mid-2015 onward, the air asset apportionment decisions made by General Brown in his Air Operations Directive [or AOD for short—the CFACC's overarching direction with regard to the use of airpower for the next month and beyond] began making a subtle but definite change toward air interdiction instead of solely dedicated [on-call] CAS missions. The Army's concern from the campaign's very start was that whenever the engaged ground forces should call in need, overhead air support *must* be immediately available, and both the land and air components had recurring conversations about this concern, since the land component, from its still-continuing experience in Afghanistan, had grown accustomed to having on-call CAS response times in terms of seconds as opposed to minutes.[30]

"Eventually," he said, "as target sets began to emerge through discovery and development, a prioritization took place in the CAOC on how we allocated air to provide CAS when needed (which we labeled XCAS) and interdiction." Expanding further on this entirely sensible and appropriate new de facto division of labor, Colonel Rueschhoff added:

> While the concept wasn't new, the thought was to look at the problem differently than had been done in the case of COIN air support operations in Iraq and Afghanistan. This required some time to become normalized. In the end, we began pulling strike assets off of traditional 24/7 XCAS CAPs, either moving the CAPs to locations where expected ground contact would occur or else moving them where they could still respond quickly (albeit more in minutes than in seconds) but now to multiple areas of expected contact across Iraq and Syria. We could then cover more area with XCAS while still retaining our deeper strike capability. The bottom line of all this—XCAS wasn't actually needed until targets requiring prompt servicing presented themselves.[31]

In effect, this approach was almost a mirror-image resurrection of Lieutenant General Horner's earlier novel concept of "push CAS," which he had sold before the start of Operation Desert Storm in 1991 to his JTF

commander, General Schwarzkopf, against the heaviest initial pushback from CENTCOM's Army corps commanders. That concept assured those subordinate land commanders that they would have all the CAS they might have needed and then some, should it ever be required to prevent an imminent crisis from arising in the land battle, but not in a way that would needlessly tie up coalition strike aircraft in dedicated holding for on-call CAS to the exclusion of any other applications throughout the theater.

In addition, Colonel Rueschhoff pointed out, "General Brown used his position to advocate for a more combined effort across the entire targeting and intelligence communities both forward in the AOR [area of responsibility] and back in the States. This made a *huge* difference in the types and timing of targets to strike. He was also a big advocate for determining the 'so what' [of such targeting] through [post-strike] assessment. He wanted to make sure that the effect we were driving toward was actually happening."[32] General Welsh later added that this pivotal shift in AFCENT's targeting emphasis was both enabled by and materially aided by his deputy chief for ISR on the Air Staff in the Pentagon, General Otto, who "led this charge [on the home front] in Washington, D.C."[33]

In amplifying further on these important points, General Brown himself later recalled that not long after he arrived at al-Udeid Air Base as OIR's second successive CFACC, and in the midst of the CJTF's leadership transition from Lieutenant General Terry to Lieutenant General MacFarland,

> CJTF-OIR developed a battlefield geometry that designated portions of western Iraq and eastern Syria as battlespace assigned to the CFACC. This was helpful in pushing for deliberate targets beyond the CJFLCC's FSCL [fire support coordination line] and its CAS mentality. The challenge … was within the CJTF's ISR allocation process, in which ISR and other capabilities were apportioned against various "named" subordinate operations across the CJOA [combined joint operating area]—a process not used by the CAOC up to that point but one that had been common in [Operations Enduring Freedom and Iraqi Freedom] and that carried over into OIR.[34]

Regarding specific measures he instituted to take advantage of this dispensation, he added:

> I did two things to push for more ISR for deliberate targeting: (1) a comparative and transparent analysis of organic CFACC-provided theater ISR allocation and apportionment across the CJOA clearly illustrating the limited ISR allocation and apportionment to deliberate target development. This resulted in a more fulsome discussion of the balance of ISR between the close CAS fight and deliberate targeting efforts. And (2) I created CFACC-named subordinate operations as a means for gaining CJTF-ISR allocation and apportionment decisions to support deliberate target development. Although I was initially not a fan of the "named" subordinate operations for the air component, I realized the need to adjust my thinking and approach to the existing system to achieve my intent of gaining more ISR and focus on deliberate target development.[35]

As vivid illustrations of this changed and improved targeting emphasis, on January 18, 2016, U.S. Air Force F-15E Strike Eagles put eight precision munitions into a bank containing millions of dollars worth of ISIS cash reserves, in a telling testament that CENTCOM's performance against ISIS had finally begun to show signs of perceptible gains in strategic effectiveness. Thanks to that belated but most welcome heightened emphasis, the air war by the spring of 2016 had also reduced ISIS's oil production by some 30 percent, with more than 400 oil tanker trucks having been destroyed and with incoming revenue from black-market oil sales down by as much as 50 percent. More than six months later, in the single largest attack of its kind in OIR up to that point, coalition strike fighters on December 8, 2016, destroyed 186 ISIS oil tanker trucks that had been concentrated out in the open near Palmyra, Syria, resulting in an estimated loss of illicit revenue for ISIS of more than $2 million.[36]

In that regard, General Brown freely conceded that owing to more than a decade of all but exclusive concentration on honoring often urgent air support requests from U.S. ground-force units engaged in direct contact with enemy combatants in the ongoing COIN wars in Iraq and Afghanistan, the professional staffers in the CAOC's various functional divisions had all but forgotten the complex art, first pioneered during the planning workups to Operation Desert Storm in late 1990 and sustained thereafter through the major combat phase of Operation Iraqi Freedom in early 2003, of assessing

which fixed targets were of greatest value and importance to the enemy. What that required in practice was an almost overnight shift in emphasis from so-called dynamic, or real-time, targeting against individual objects of fleeting import like ISIS vehicles or rendezvous points as they emerged to what the CAOC's staffers called deliberate targeting against larger fixed and known targets, such as headquarters buildings, barracks, and oil storage facilities whose elimination could yield more enduring strategic results. Even in the best of circumstances, as a seasoned JTAC during the campaign later rightly pointed out, actually developing such targets—including first finding them, getting the pertinent intelligence, and then vetting them—"is almost never a quick process."[37]

With respect to high-value targeting of key enemy personnel, an endeavor that bore high priority from the campaign's first days onward, success in that mission area was almost uniformly driven by timely intelligence gathered during the course of the continuing ground fight. In one notable case of such targeting nearly two years into the campaign, thanks to effective overhead ISR monitoring over a sustained period of many days following a lead from such intelligence, a raid supported by a U.S. SOF team in eastern Syria in May 2015 succeeded in killing a pivotal ISIS leader known as Abu Sayyaf (believed to be Fathi Ben Awn Ben Jildi Murad al-Tunisi[38]), and capturing troves of valuable information on the jihadist movement's leadership and financial operations. A year later, a coalition air strike in the same portion of Syria killed Rayan Masha'al (his real name, Bara'a Kadek), a founder of ISIS's notorious Amaq propaganda agency who had previously been tracked and geolocated in the ISIS-held town of Mayadin near the Syrian border with Iraq.[39]

For their part, the expert targeteers in AFCENT's rear-area headquarters at Shaw AFB, South Carolina, had continued all along to conduct painstaking deliberate target analysis and to prepare meticulously documented financial and oil-related target folders for the files as far back into the war against ISIS as early 2015. Such deliberate target-attack options relied on a systematic accumulation of overhead imagery, electronic intercepts, and informers' tips that all pointed to sites for immense holdings of ISIS cash reserves in bank vaults, private residences, and other storage facilities. Requested strikes against those choice targets had invariably been disapproved at first by those in Obama's White House who were concerned

about their possibility for causing unacceptable civilian fatalities. Later on, however, once they were finally approved, the result was the air war's eventual destruction of hundreds of millions of dollars in ISIS cash holdings. The U.S. Air Force's chief of staff at the time, General Welsh, expressly singled out General Brown as having been a major source of influence in broadening the way in which CENTCOM's air assets were committed against ISIS in this much-improved manner.[40]

In just one telling testament to that accolade's fairness, General Brown remarked in a press interview in mid-July 2016 that his "biggest accomplishment" since becoming CENTCOM's air component commander the year before was reintroducing into the CAOC key elements of the more sophisticated targeting capability that had dominated AFCENT's mission planning during its earlier air wars going back to Desert Storm. As he rightly observed: "In the last 15 years or so, we've done a lot of close air support for troops in contact and [armed] overwatch, and [in] the deliberate targeting process, we lost a little muscle memory from what we had in the past, so … I think this is something that's going to help us in [CENTCOM's area of operations] and in other contingencies later on that we as a nation or as the coalition team may face in the future."[41]

Even with his long-overdue improvements in the campaign's emphases at the strategic level, however, General Brown, toward the end of his assignment as CFACC, freely acknowledged the continued importance as well of providing on-call support for advancing friendly ground troops in addition to being an asymmetric asset offering independent leverage against ISIS through deeper interdiction attacks. In that regard, he told reporters:

> The model that we use … in the combined joint operating arena, as the air component, we're able to strike ahead of the ground movement…. If I know where the next [land] fight is going to be, then what I want to be able to do is actually soften up that with strikes…. And we found that if we do that, the resistance that the ground forces face seems to be less for a number of reasons. We want ground forces to maneuver with as little resistance as possible.[42]

That view was entirely in keeping with the long-proven axiom regarding airpower's best use in air-land warfare dating back to Desert Storm calling for degrading the other side's fighting capacity on the ground

to the fullest extent possible through precision standoff air attacks before friendly ground forces commit to close-quarters combat with their enemy counterparts.

The Looming Fight to Retake Mosul

The intensity of aerial weapon deliveries against ISIS targets in OIR grew steadily over time from fewer than 200 a month in August 2014 to more than 3,000 a month by mid-July 2016.[43] To offer just a brief snapshot of this long-needed and most welcome intensification, July 2015 saw a total of 2,829 coalition munitions dropped on ISIS targets, a growth of 67 percent above the figure for the previous month, thanks to a substantial rise that summer in the number of target-attack opportunities that were identified in both Iraq and Syria as a result of advances by the Iraqi Kurdish Peshmerga and Free Syrian Army (FSA) on the ground.[44]

More encouragingly yet, as the year continued to unfold, CENTCOM was allowed to relax some of its previously restrictive ROE aimed at protecting the lives of local noncombatants at virtually any cost, and it broadened its list of approved targets to include ISIS weapons manufacturing facilities, cash coffers, and infrastructure assets like oil refineries that were being used to raise millions of dollars in illicit revenue each day. As further aids to more effective targeting, CENTCOM also fielded a modest number of additional U.S. SOF teams to work with indigenous friendly ground forces, and it granted a substantial delegation of target-approval authority from CENTCOM's headquarters in Florida to more closely involved generals in the forward area.[45] On this last point, the effort's uniformed spokesman, Col. Steve Warren, USA, explained in late April that this easing of the former rules would now allow for a more "rapid execution of strikes, because we don't have to send requests all the way to Tampa any more. As our higher headquarters starts seeing the same type of target set come up, over time they will say 'OK, in this case we're going to delegate the authority. You don't need to show us that any more.'"[46] All of this, coupled with the substantial rebuilding of Iraq's forces that took place after late 2014 and the Obama administration's increase in the permissible civilian casualty level for such large urban operations, succeeded in enabling an eventual hard-won recapture of Fallujah by the ISF by mid-2016 and a forcing of ISIS onto the tactical defensive for the first time since its emergence as a would-be caliphate more than two years before.

Still, the impending battle to drive ISIS out of Mosul was delayed by at least a year, with American officials now conceding in early May 2016 that additional assets would have to be committed if the campaign's sought-after goals were to be achieved in any reasonable period of time. One tangible sign of that ramped-up commitment was the dispatching of an additional 450 SOF and other U.S ground troops into Iraq and Syria and the introduction of both U.S. Army AH-64 Apache attack helicopters and U.S. Air Force B-52 heavy bombers, the latter of which replaced the B-1s that were previously deployed forward in the theater, to help contribute to the ongoing effort.[47] By that point in the war's conduct, CENTCOM could report that ISIS had lost 45 percent of the areas it once held in Iraq and 20 percent of those it held in Syria, with a senior American ground commander in Iraq, Maj. Gen. Gary Volesky, USA, declaring that after two years of cumulative air attacks and increasing ISF gains, ISIS's "ability to conduct large-scale offensive operations has primarily stopped."[48]

As the ISF's move to retake Mosul began gathering headway in early November 2016, the vast majority of air strikes performed by coalition aircraft—nearly 90 percent in all—were not directed against fixed targets that had been prebriefed before the aircrews launched but rather against dynamic targets generated by ISF ground forces in real time and facilitated by the technical inputs provided by U.S. SOF teams and JTACs as ongoing friendly ground operations demanded direct air support.[49] Later on, now five weeks into the ISF's offensive, a stack of forty-three coalition aircraft orbiting overhead and on call as needed to provide both direct attack and CAS included B-52s, AV-8Bs, F-15Es and F-22s, all holding on station and ready to engage any emerging targets as they were called out by American JTACs on the ground. Those JTACs were in turn aided by more than a dozen airborne RPAs, including armed Predators and Reapers, which provided real-time streaming target video imagery. That airborne armada offered just one fleeting glimpse at the magnitude into which CENTCOM's air effort had finally—and fortunately—grown since early August 2014.[50]

In a remarkable testament to the quality of imagery that was constantly on call and almost instantly available on demand from the coalition's diverse airborne ISR sensors, Master Sergeant Bryant, the most senior JTAC serving in CJOC-B, later recalled that

> to our surprise, the exceptional aerial surveillance capability we had from the strike cell would come to, at times, give us as good if not better situational awareness of the battlefield than if we were on the ground ourselves. Once our strike cell got heavy into operations, it became common for us to have four or five feeds going at once—all giving us sensor pictures from multiple aircraft under our control overhead various objective areas and battlegrounds throughout Iraq…. The level of focus required to safely and effectively coordinate all those air assets, keep track of the often chaotic friendly and enemy fire and maneuver on the battlefield (not to mention civilian or neutral-force activity), and culminate it all into hitting the right targets and successfully enabling Iraqi ground offensives would probably be mind-boggling to the outside observer.[51]

This was all, moreover, still in late 2014, well before the start of the massive push to free Mosul.

All of that said, however, the air war was still only marking time from a bigger-picture perspective more than a year and a half into its conduct. The number of air attacks against ISIS targets in Iraq was up by 65 percent over the same time the year before, with the American ground-force contingent in Iraq now back up to some 4,000 troops since President Obama withdrew the last remaining U.S. occupation forces from the country at the end of 2011. ISIS's recruitment of new jihadists was said to have decreased from 1,500 a month at the height of the movement's appeal to only 200 a month by early 2016, and CENTCOM's approved target list had now grown to include ISIS weapons factories, supply caches, and other assets of strategic importance. Nevertheless, the rate of daily coalition air strikes into Raqqa remained notably limited even at a time when, after twenty-one months of bombing, some 12,000 attacks had been conducted in all against ISIS positions at an assessed total cost of $7 billion. Summing this all up, one journalistic appraisal of CENTCOM's combat effort to date concluded that "almost two years of U.S. air strikes have been instrumental in the progress against ISIS—but so far, at great cost and still with no end in sight."[52]

Furthermore, despite such emerging signs of still slow but nonetheless incremental gains at long last, and with the waning Obama administration now looking to secure its legacy and tacitly conceding that its earlier

gradualism had not been working by finally stepping up the effort's intensity, ISIS fighters continued to be "innovative … agile, redundant [and] resilient," in the words of Brig. Gen. Albert Elton, USAF, the deputy commanding general of U.S. Joint Special Operations Command. "They are willing," he pointed out, "to accept tremendous losses to advance their cause…. They have quickly adapted their organization and their technologies, their tactics, techniques and procedures, [and] their weapons to take advantage of our constraints and limitations." This continued fact of life regarding the enemy was reported at a time, moreover, when despite an expanded presence by then of more than four thousand American SOF combatants and other U.S. troops in Iraq and Syria, the Obama White House was still promoting the quaint fiction that even though those troops were undeniably engaged in real and potentially mortal combat, they were not formally there on a "combat mission."[53]

By the end of June 2016 the ISF finally freed Fallujah from ISIS's control after a five-week-long fight, with Iraqi attack helicopters having conducted many of the last day's combat missions.[54] Soon thereafter, in one of the single most effective aerial strike operations to have been inflicted on ISIS at any time up to that point, American and Iraqi combat aircraft destroyed a convoy of 120 ISIS vehicles that had been concentrated east of Ramadi and was observed moving westward.[55] During the same period, however, the administration's most senior security principals were still of several minds when it came to their public assessments of the effort's progress. The president himself had declared confidently in a statement on June 14, after meeting with his top advisers to discuss the state of the effort against ISIS, that the campaign "at this stage is firing on all cylinders." Yet his own CIA director, John Brennan, told an audience at the Council on Foreign Relations at about the same time that "we still have a ways to go before we're able to say that we have made some significant progress against them."[56]

As just one example of the challenges CENTCOM continued to face as a result of its need to operate in two adjoining but separate countries in its combat effort against ISIS, a flight of coalition fighter aircraft that had been tasked with providing cover for a rebel ground assault in progress to capture the Syrian town of al-Bukamal on June 28, 2016, was diverted from that ongoing operation at the last minute and retasked into Iraq to engage a large

convoy of jihadists who were attempting to flee across the desert from recently liberated Fallujah. That diversion resulted in hundreds of ISIS militants being killed and scores of their vehicles destroyed in what was, by any measure, a highly effective air attack. While it was under way, however, the American-trained FSA combatants in Syria who those aircraft had initially been tasked to cover found themselves suddenly abandoned, with the result that they were eventually pushed back by ISIS to their desert base at al-Tanf more than two hundred miles away. As a CENTCOM spokesman later explained this last-minute operational misfortune for the FSA: "You have a finite number of resources and you try to get the biggest bang for the buck that you can out of the resources you have…. Prioritization was given to one target over another."[57]

Further Signs of Increasing Progress

Another harbinger of the ramped-up air war's slowly improving effectiveness in general, however, was the gradual emergence of clear signs that ISIS's leadership had begun publicly conceding to their rank and file that the movement was encountering declining fortunes on the battlefield and could well be soon facing an imminent collapse of their vaunted caliphate. Additional evidence of the movement's waning fortunes included its steadily shrinking terrain holdings in Iraq and Syria, its recent forceful ejection from Fallujah, and its progressive increase in the number of ISIS-inspired terrorist acts abroad to compensate for its faltering grip on its home turf.[58] It should have come as no surprise to anyone by the summer of 2016 that the bombing effort's steady gains registered since its all-too-diffident start two years before were a direct result of the rise in the number of munitions that had been dropped on ISIS targets each month from fewer than a couple of hundred during the effort's first weeks to nearly two thousand by October 2015 more than a year later, with a continuing rise to more than three thousand a month nearly two years after the effort's start.[59] They also, to be sure, were products of the significant growth in the offensive capability of U.S. partner forces in Iraq and Syria since late 2014 and in the concomitant increase in the amount of timely ground intelligence on ISIS that was generated during the course of indigenous counteroffensive operations, resulting in what a participating JTAC called "more offensives being conducted in more objective areas and more ISIS

targets therefore being revealed and presented."[60] A U.S. Air Force F-16 pilot concurred:

> Part of this was an increase in the ground operations tempo. The more movement that occurred on the part of ISF, Peshmerga, and SDF forces, the more that contact with the enemy occurred, which in turn yielded more weapons dropped. There were so many more operating areas or fronts that we were supporting by this time, which occasioned a corresponding increase in the number of supported partner forces. So while we indeed slowly ramped up the strikes and extended TEA down further, the ground war also ramped up as all the players in the game found their footing and got their act together.[61]

More than 10,500 of the above-noted aerial weapon deliveries into both countries, however, were conducted by U.S. forces, with the effort's coalition partners having accounted for only around 3,200. That continuing imbalance in comparative levels of effort finally prompted Secretary Carter to convene a gathering of the coalition's defense ministers at Andrews AFB, Maryland, to discuss first and then settle on their expected contributions to what Carter described as the upcoming "decisive" stage in the fight against ISIS. The meeting's agenda items included a briefing on the administration's emerging plan for the ISF's retaking of Mosul and for finally eradicating what remained of ISIS's last foothold in its avowed capital city of Raqqa. An important associated item entailed enlisting more tangible support from the coalition's partner nations, even the closest of which had made only limited combat contributions up to that point.[62]

In their declaratory pronouncements regarding the campaign's progress, senior officials in the Obama administration continued to be on all sides of the issue. In mid-July 2016 Secretary of State John Kerry proposed, with his usual air of unbridled optimism, that "we can say that the tide has [now] been turned." Just a month before Kerry offered that overly rosy assessment, however, CIA director Brennan told the Senate Intelligence Committee that "our efforts have *not* reduced the group's terrorism capability and global reach." Further bolstering Brennan's darker assessment of ISIS's continued staying power, the director of the Federal Bureau of Investigation, James Comey, likewise warned in a similar vein

that “at some point, there’s going to be a terrorist diaspora out of Syria like we’ve never seen before.”[63]

Yet despite the notable intensification of the American-led effort against ISIS since it began in early August 2014, CENTCOM’s gradually increased target coverage and bombing tempo more than two years later had still shown little progress toward achieving the administration’s avowed ultimate goal of defeating ISIS decisively. By the end of July 2016, as noted at the start of this assessment, the overall cost of the effort had risen to $8.7 billion. Furthermore, by the end of the following month, U.S. and partner-nation aircraft since the beginning of OIR had conducted nearly 15,000 target attacks in all, with more than 26,000 individual aim points having been struck altogether up to that point.[64] Yet, for all that seemingly impressive heightened effort as reflected in sheer numerical terms, the ISF remained no closer than ever toward achieving its most pressing immediate goal of recapturing Mosul, which remained the home base of ISIS’s still-controlling presence in northern Iraq.

To make matters even worse, a new complication arose a year into the war effort thanks to Russia’s having opportunistically inserted itself into the war zone in 2015 to conduct aerial strikes on behalf of Syria’s embattled President Assad that worked directly at cross-purposes with CENTCOM’s air component, thanks to a bold exploitation by Vladimir Putin of the regional power vacuum that had been created by President Obama’s earlier refusal to honor his declared “red line” against Assad by engaging in the ongoing Syrian civil war in support of rebel forces. (See chapter 8 for a fuller treatment of this late-arising Russian complication.) By way of still further discouraging news, although CENTCOM’s air support to indigenous friendly ground troops had driven ISIS out of some 45 percent of the territory it once held in Iraq and out of 20 percent of the areas it formerly controlled in Syria by mid-May 2016, the jihadist movement sought to offset those losses by extending its reach and presence into ungoverned post–Muammar Gaddafi Libya as well as by either conducting or inspiring additional terrorist atrocities in major cities around the world, including in the American heartland.

In all, the continued vitality and battlefield gains shown by ISIS since it first emerged in the aftermath of the American withdrawal from Iraq at the end of 2011 prompted the director of the U.S. National Security Agency

and commander of U.S. Cyber Command, Adm. Michael Rogers, USN, to declare by late 2016 that the terrorist organization represented by far "the most adaptive target [he'd] ever worked [in 25 years] as an intelligence professional."[65] As the senior U.S. Army commander on the ground in Iraq at the start of OIR and his lead JTAC later recalled in this regard, once word got out throughout the enemy's ranks that coalition air attacks had finally been authorized by the U.S. government, they began changing their tactics such that "we rarely saw ISIS move with more than three military vehicles in a convoy. They began using civilian cars to move their fighters, which made it far more difficult to identify them. They started using 'human shields' from the civilian population knowing we wouldn't strike."[66] From the very start of the Obama administration's parsimonious bombing effort in early August 2014, ISIS's method of adjusting to the American asymmetric airpower advantage included dispersing into smaller groups whenever possible, avoiding the use of cellular telephones that might be detected by U.S. signals intelligence, avoiding the formation and use of convoys unless absolutely essential for moving large volumes of oil for sale in the black market, and planting ISIS flags on empty civilian buildings and rooftops to attract enemy fire. After Iraqi military units began liberating outlying villages during their offensive to recapture Mosul, they also encountered wooden tanks and even wooden replica soldiers put in place as decoys by ISIS jihadists to draw coalition air strikes away from real targets.[67]

As for the administration's and CENTCOM's belated moves to counter ISIS with more effective kinetic countermeasures, the U.S. Air Force's chief of staff, Gen. David Goldfein, was undeniably on firm ground when he declared at the end of August 2016 that OIR was now "absolutely going in the right direction."[68] That said, however, CENTCOM's former commander from 2010 to 2013, Gen. James Mattis, was no less on target when he offered the more sobering observation at roughly the same time that the administration's effort against ISIS remained "unguided by a sustained policy or sound strategy [and continued to be] replete with half-measures."[69] An even more caustic view of CENTCOM's continued flawed approach was offered by Gen. Anthony Zinni, USMC (Ret.), who had led that combatant command from 1997 to 2000 and who remarked that he would not "want to be a part of a strategy that in my heart of hearts I know is going to fail. It's a bad strategy, it's the wrong strategy, and maybe I

would tell the president that he would be better served to find somebody who believes in it, whoever that idiot may be…. I've talked to some U.S. generals who are really frustrated—they could be in Raqqa in a week."[70]

In those still-problematic circumstances, a more promising way ahead for the nation's effort against ISIS was suggested by the former chief air campaign planner for the 1991 Persian Gulf War, Lt. Gen. David Deptula, who finally proposed toward the end of 2015 that any truly effective approach toward defeating ISIS would necessitate moving beyond the campaign's continued fixation on mere tactical-level gains from one day to the next "to a [more] robust, comprehensive use of airpower—not simply in support of indigenous allied ground forces, but as the key force in taking down the Islamic State. It will [also] require focusing on the Islamic State as a government, not as an insurgency, and for Central Command and [its] subordinate task force [against ISIS] to stop fighting the last war and start the serious use of airpower."[71] Otherwise, as a well-informed British appraisal concluded not long before, the administration's would-be campaign risked "becoming another expensive lesson that despite their best efforts and intentions, expert personnel and superb equipment in the air cannot by themselves deliver strategic victory."[72] Anthony Cordesman warned in a similar vein that if a more determined restart of the effort was not initiated by CENTCOM soon, then the legacy of this latest U.S. and NATO air war might "well be that the [administration] could talk a fight but not execute one" by having repeatedly pursued ineffective half measures that had "proved so reactive that events have consistently outpaced every new increment in U.S. military activity."[73]

Countering ISIS's Use of Drones

In addition, in a notable new development in modern warfare, ISIS at the start of 2015 was observed resorting to the use of small commercially available drones for battlefield surveillance and for delivering kinetic effects against ISF and SDF combatants on the ground. At first the intent and likely eventual scale of its use of drones as instruments of combat remained unclear. Both applications, however, had become of sufficient concern to CENTCOM by the end of 2016 to prompt the first coalition air strike expressly targeted against a known ISIS drone assembly facility near Mosul.[74] It later became evident, as ISF fighting units advanced ever further into Mosul, that ISIS was not just using these mini RPAs as primitive ISR

platforms but also was employing small quadcopters a couple of feet in diameter that were capable of remaining airborne for about an hour and of dropping small munitions akin to hand grenades.[75]

At first regarded principally as just a minor nuisance, the drones used by ISIS eventually became a major headache for the ISF and for American SOF teams as their preparations to retake Mosul continued apace. Indeed, that headache soon worsened to a point where the commander of U.S. Special Operations Command, Gen. Raymond Thomas, USA, conceded that the drones had been "the most daunting" threat his teams had faced during the preceding year. General Thomas added that such unexpected and creative use of drones by ISIS reflected "an adaptive enemy who, for a time, enjoyed tactical superiority in the airspace under our conventional air superiority in the form of commercially available drones and fuel-expedient weapons systems, and our only available response was small-arms fire." He further noted that, earlier during that year, "there was a day when the Iraqi [ground-war] effort nearly came to a screeching halt, where literally over 24 hours there were 70 drones in the air. At one point there were 12 'killer bees,' if you will, right overhead and underneath our air superiority, making for a momentary advantage [for ISIS] that we had to rectify."[76] The drones, to which their operators would attach a droppable 40-mm munition, were readily available for purchase on the commercial market for about two thousand dollars apiece. U.S. SOF teams eventually targeted and struck at the drone operators' support infrastructure and communications and also sought to disrupt their operations with radio frequency jamming.

One news report spoke of ISIS drones being launched in relatively large numbers of a dozen or more to stream live video of U.S.-backed Iraqi and Syrian rebel ground troops and to drop grenades and other light explosives that were said to have killed or wounded "dozens" of ISF troops. Such use was rightly described by some U.S. officials as the first time since the Korean War when American military personnel in a war zone were essentially powerless against hostile aircraft. Of this newly revealed capability on ISIS's part, the director of the National Counterterrorism Center, Nicholas Rasmussen, told the Senate Committee on Homeland Security and Government Affairs that "two years ago, this was not a problem. A year ago it was an emerging problem. Now it's a real problem. So we're quickly trying to up our game."[77] All of that suggested that such

enemy use of commercially available drones could eventually escalate into a more serious and sustained downstream concern, thereby attesting even further, as was later recalled by CJOC-B's most senior JTAC during the campaign's first year, to "the kind of innovative and savvy enemy we were facing where, despite all our money and technology and power, we still were challenged in fighting them."[78]

By way of improvised interim countermeasures, the Department of Defense sent electronic jammers to the war zone to help U.S. SOF teams either physically bring down or otherwise neutralize the ISIS drones. It also initiated a multimillion-dollar program to develop laser weapons that might disable the drones while in flight as well as guns capable of firing small nets to capture them in the air. Friendly forces in Iraq and Syria also finally succeeded in extracting GPS data from captured enemy drones to determine their launch points and then attack them.

Before long the drone threat had grown to a point where ISIS had developed an entire drone infrastructure, including the issuance of standardized "drone use" reports to be filled out and filed after each scheduled mission. The drone pilots themselves served in a special unit called the Bara'a bin-Malek Brigade, a subsidiary of ISIS's research and development arm known as the Committee of Military Manufacturing and Development. This was all clearly a manifestation of a state-like entity rather than of an insurgency, as CENTCOM had all along been wrongly inclined to define and treat ISIS.[79]

Fortunately, however, despite the gradually escalating drone threat for a time, the administration's broader effort against ISIS by mid-2016 had finally begun to show belated but welcome signs of steady intensification after two years of recurrent and seemingly directionless bombing of individual pop-up targets of opportunity as they emerged. To cite one encouraging sign of this intensification, in the largest-ever air attack into Syria as of early August 2016, coalition aircraft destroyed eighty-three contraband oil tanker trucks that had been found exposed in the open desert, bringing to a grand total more than six hundred of such ISIS-commandeered trucks that had been taken out since they were first approved as targets. For the most part, since CENTCOM's air effort against ISIS first got its tentative start in early August 2014, the jihadist organization's leaders had been smart enough not to concentrate their capital assets into such lucrative and inviting targets. Said CENTCOM's CFACC at the time, Lieutenant General Harrigian, of this conspicuous exception to that rule: "This is a very good indication that they're having trouble commanding and controlling their forces."[1] ISIS committed a similar error the preceding June as well when several convoys of ISIS fighters seeking to flee Fallujah experienced a massive air attack that killed more than three hundred jihadists and destroyed at least two hundred of their vehicles. That new and promising pattern of seemingly desperate moves by ISIS led CJTF-OIR's commander, Lieutenant General MacFarland, to declare confidently that "the enemy is in retreat on all fronts." General MacFarland added that Syrian rebel forces, with the asymmetric help of coalition airpower, were now on the verge of defeating ISIS in Manbij, Syria: "I don't give it very long before that operation is concluded," he said, "and that will deal a decisive blow to the enemy."[2]

Another encouraging testament to the administration's finally ramped-up effort came to light when a preplanned U.S. air strike near al-Bab in Syria on August 30, 2016, killed Abu Mohammad al-Adnani, ISIS's chief recruiter, propagandist, and overseer of global terrorist operations.[3] In a similar preplanned strike, a large force package of U.S. Air Force and

Marine Corps aircraft conducted a massed attack on a known ISIS chemical weapons manufacturing plant the following September 12, engaging more than fifty targeted points of interest near Mosul with PGMs delivered by a dozen combat aircraft in all, including F-15Es, F-16s, A-10s, B-52s, and F/A-18Ds.[4] That target had originally been an Iraqi pharmaceutical factory that was thought to have been commandeered by ISIS to produce "chlorine or mustard gas—we don't know for sure at this point," as General Harrigian later reported.[5]

The Epic Battle to Free Mosul

Finally, as the long-awaited ISF push to eject ISIS from Mosul began gathering headway in early October, some 4,000 Iraqi Kurdish Peshmerga troops were pressed into an effort to retake ten surrounding villages that would commit to battle as many as 30,000 indigenous friendly ground combatants in all, aided by accompanying U.S. SOF teams in an advisory role and backstopped throughout by a heavy application of American airpower. Secretary Carter billed this looming offensive as a "decisive moment" in Iraq's still-stagnated fight against ISIS.[6] Although the White House went out of its way to stress that Iraq's prime minister, Haider al-Abadi, was "calling the shots" in the pending effort, the looming offensive was supported by more than half of the 5,000 U.S. ground troops, including between 200 and 300 American SOF combatants and a "few dozen" JTACs, who were reported by then to have been redeployed to Iraq.[7] CJTF-OIR gave this U.S. contribution to the impending liberation of Mosul the code name Operation Eagle Strike.

On October 17, 2016, General MacFarland announced the formal start of the Iraqi-led offensive to retake Mosul.[8] Prime Minister al-Abadi did likewise that same day, heralding the ISF's gathering determination at long last to repatriate Iraq's second-largest city that ISIS had ignominiously captured in June 2014 and had ruled with a malevolent hand ever since. As the only remaining large city in Iraq still occupied by ISIS, the impending battle was portrayed by the British news weekly *The Economist* as "the most complex military operation in the country since the American invasion in 2003."[9] A subsequent review of that epic showdown conducted by the U.S. Army–led Mosul Study Group even more aptly depicted the nine-month-long slog as "the first sustained urban operation involving U.S. forces since the 1968 Battle of Hue" in South Vietnam. That in-depth

assessment described the entrenched resistance in Mosul as “a capable and adaptable hybrid force” consisting of between three thousand and five thousand light-infantry ISIS combatants equipped with “significant numbers of heavy machine guns, rocket-propelled grenade launchers, recoilless rifles, mortars and rockets,” all of which provided the needed wherewithal for the dug-in jihadists to establish “a robust, layered urban defense with coordinated capabilities across multiple domains.”[10]

CENTCOM officials reported that the coalition’s air assets committed to the fight for Mosul had been increased by “tenfold” and that the looming battle had become the number one priority for coalition aircraft, even though coalition air strikes around Mosul had already been conducted more or less regularly, if also less than decisively, ever since OIR began more than two years before. They added that, with Mosul being more than three times the size of Raqqa, the ISF would need to show substantial progress in their push to retake that city before the coalition could swing its enabling air assets to Raqqa in a significant way.[11] For a time, that progress was rather slow in coming, as was later explained by the CAOC’s chief of combat plans in describing what he called “the ‘squeezing balloon’ effect early on, where we’d strike one place repeatedly and have good effects locally, after which the enemy would simply relocate—we’d squeeze one place and they’d balloon at another.”[12] To help sustain the battle’s forward momentum in the face of that recurrent friction, the new commander of CJTF-OIR, Lt. Gen. Stephen Townsend, in late December 2016 extended target engagement authority even further down the chain of command for defensive purposes to his lieutenant colonels assigned as liaison officers to ISF generals.

During the ISF’s protracted battle to liberate Mosul, precision bombing by coalition aircraft succeeded in sparing most of the eastern portion of the city from any extensive collateral damage to buildings and other vital infrastructure, and that commitment of airpower was absolutely indispensable for enabling successful ISF maneuvering throughout the city’s dense urban terrain. As an ISF sergeant major later recalled on that important point: “Honestly, the battle was 75 percent fought from the air.”[13] Such was unfortunately not the case, however, in the follow-on liberation of western Mosul, where block-to-block fighting ensued in dense urban canyons and where CJTF-OIR’s decision to extirpate any remaining ISIS

holdouts in place rather than allow them to escape resulted in major and unavoidable byproduct damage to civilian homes and other structures throughout that area.[14] Said one commander with the Iraqi Counter-Terrorism Service, General Sami al-Aridhi: “It’s a battle inside alleyways against an enemy that commits to no ethics,” with rapid-response ISF teams calling in coalition air attacks as they moved literally from door to door while evacuating as many civilian residents along the way as they could.[15] Such efforts finally all but eliminated the last remaining remnants of ISIS’s reviled presence in Mosul after more than eight months of hard fighting by the ISF, aided by relentless on-call air strikes and by “hundreds” of U.S. SOF combatants who were also indirectly engaged.[16]

The ISF’s final push to drive ISIS out of Mosul featured a heavy use of overhead full-motion video platforms that constantly monitored the dense, complex urban battlespace below, with U.S. Air Force MQ-1 Predator and MQ-9 Reaper RPAs most favored due to their long loiter time and tailorable onboard packages; with U.S. Army MQ-1 Grey Eagles, RQ-11 Ravens, and RQ-20 Pumas providing additional full-motion video coverage; and with Army RQ-9 Shadows operating mostly at night in filling in the rest of the unmanned ISR coverage.[17] The Predators and Reapers were said to have been especially effective in monitoring the city’s dense and sometimes all but impenetrable urban environment. As explained by Brig. Gen. Case Cunningham, the commander at the time of the U.S. Air Force’s 432nd Air Expeditionary Wing at Creech AFB, Nevada, from which the RPAs were being remotely flown, those unmanned aircraft armed with Hellfire missiles and GBU-12 500-lb laser-guided bombs could orbit over the embattled city and remain holding on a combat air patrol station for as long as twenty-one hours, delivering precision munitions against ISIS targets on call as the latter were geolocated and designated by American JTACs on the ground, some of whom may have been positioned as close as thirty meters away from their supported ISF fighting units. In such operations, those two RPA types released more than 1,500 of such weapons against enemy aim points in 2016 alone. They also on occasion provided an offboard target laser-designation capability called “buddy-lasing” for other coalition aircraft operating in the same airspace and armed with laser-guided munitions. With the Creech-based RPA pilots in constant radio contact with the embedded JTACs deployed forward half a world away, and by relying on the

constantly staring multispectral sensors that the RPAs carried, General Cunningham explained how his operators were able to be "very patient and wait for the enemy to separate from the civilian population. Then, once they get away from the civilian population, we [can] target the enemy and their equipment."[18] As one allied F-16 pilot amplified instructively on this point,

> We used the RPAs as extended sensors. Their cameras were more powerful [than the F-16's onboard targeting pod], and they flew lower. Often the RPAs would find, track and identify enemy individuals that we could barely see from 15,000 feet. They would use their lasers to mark the location of the target, and we would then track the enemy and kill them. Most of all, the RPAs reduced the possibility of civilian casualties. They would loiter for sometimes as long as ten hours over one location and give us a better understanding of the area's pattern of life.[19]

An OIR-experienced U.S. F-16 pilot added helpfully to this point, however, that "we really needed both [the RPAs *and* the manned fighters]. The amount of situation awareness you can gain from actually being over the battlefield and being able to look outside through the canopy (my favorite sensor) is immense, especially in CAS scenarios. Combine that with the RPA's ability to look minutely for long periods of time, and you have an excellent team capability for building battlefield awareness, finding and fixing targets, and prosecuting those targets with minimal risk of causing collateral damage."[20]

It bears further noting in this respect, as the U.S. Army–led jointservice Mosul Study Group later reported, that the battle for Mosul "turned [JTACs] into what at times seemed like air traffic controllers managing up to 40 aerial platforms," with the delivery of precision ordnance under so-called danger-close parameters more often than not the rule rather than the exception.[21] The deputy Joint Air Component Coordination Element (JACCE, pronounced "jace") director in CJOC-E at the time later recalled that at any given moment there would have been a dozen or more RPAs orbiting over Mosul, along with six or more fixed-wing strike aircraft, four attack helicopters, and two manned reconnaissance aircraft, making for a vertical stack of aircraft for the JTACs to manage ranging from 2,000 feet above the ground up to an altitude of 30,000 feet or more. "This embarrassment of ISR riches," he remarked, "enabled an unprecedented

view of a modern battlefield, but it also was very difficult to manage, often inefficient and duplicative, and actually impeded air strikes in some cases…. The variation in look angles and altitudes helped with the problem of tracking targets through urban canyons but could not completely mitigate them."[22] One senior U.S. JTAC attached to Special Operations Task Force–North recalled after it was over that he had never before seen anything like the urban density of Mosul's Old City: "It was like a micro-airspace [presenting] extraordinary challenges when talking on close air support" in such conditions.[23]

One especially egregious civilian casualty event during the protracted fight to free Mosul came close to jeopardizing the entire effort. On March 17, 2017, as was subsequently recalled by the deputy JACCE director at the time, an Iraqi forward air controller (IFAC)

> requested a strike on a sniper position on the second floor of a house, CJOC-E approved the strike with a single GBU-38v1 [500-lb JDAM]. The weapon hit the desired aim point, the IFAC called it a successful strike, and [Iraqi ground forces were then able to advance as planned]. A week later, Iraqi civil defense workers digging through the rubble discovered that the entire building had collapsed, killing 101 civilians harbored in the basement and four in an adjacent house. When these reports were found to be credible, there was a near-cessation of air and artillery strikes, … and the Erbil strike cell was given to understand that General Townsend thought the air campaign would not survive another [such] catastrophic air strike.[24]

A subsequent inquiry by CJTF-OIR determined that a large cache of explosives that had been hidden away in the structure by ISIS had detonated upon the GBU-38v1's impact, "causing the walls to collapse and the floors to pancake into the basement."[25] This incident was hauntingly reminiscent of a comparable occurrence during Operation Desert Storm nearly three decades before, when a legitimate and approved strike by a U.S. Air Force F-117 stealth attack aircraft on the al-Firdos bunker in downtown Baghdad inadvertently killed more than a hundred innocent Iraqi women and children who, unbeknownst to the campaign's air planners, had sought shelter in the bunker that night. The instant adverse publicity and propaganda value extracted by Hussein's regime from that ill-fated attack

prompted, in the words of the best synopsis of that air war, “a tightening of higher-level control over strikes on Baghdad in general and on leadership targets in particular,” starkly dramatizing what a simple intelligence failure can do to compromise airpower’s strategic effectiveness.[26]

Since the nine-month battle to free Mosul from ISIS’s stranglehold began in earnest on October 17, 2016, each of the more than 8,700 PGMs that were released against ISIS targets through March of the following year was approved either by an Iraqi general or by a Kurdish Peshmerga leader, as was explained by the deputy commander for air of the Combined Joint Forces Land Component Command for OIR headquartered in Baghdad, Brig. Gen. Matthew Isler, USAF. General Isler added that the three preceding weeks of coalition air strikes into Mosul alone had made for the “most kinetic three weeks in the campaign in Iraq” to date, with more than 500 PGMs having been delivered each week and more than 7,000 dropped in toto during the preceding January and February, the most ever in any two-month stretch of time since the effort began. He further noted that preparatory air attacks focused especially on targeting the infrastructure assets that ISIS needed in order to operate “as a state,” including its banking system, oil systems, information operations, and command-and-control network, and with about 90 percent of the air strikes initially devoted to battlefield shaping and the remaining 10 percent to providing CAS for ISF fighters in direct contact with opposing ISIS jihadists. Once the battle to liberate Mosul reached its full tempo, that ratio became reversed, with 90 percent of the air strikes now performing CAS and the remaining 10 percent devoted to continued battlefield shaping.[27] By mid-May 2017 ISF combatants had recaptured 90 percent of western Mosul, putting the jihadists there “on the brink of total defeat,” as one ISF commander tersely put it. As for the remaining ISIS holdouts in the city’s center, the ISF commander added: “They have two options: Die and go to hell or raise the white flag. They have no third option.”[28]

Viewed in hindsight, as the most thorough assessment to date of the air contribution to this epic battle later recalled, based solely on the visual images of the damage wrought by the endeavor’s nine months of bombing and shelling, one might well conclude that “the use of airpower … had been indiscriminate, inaccurate, and ineffective…. [Yet] the coalition air campaign to defeat the Islamic State in Mosul was the most tightly

controlled, specifically targeted, and precise in history. It permitted Iraqi ground forces to reclaim the city they had abandoned three years earlier and repudiated the most dire predictions about the utility of airpower in dense urban areas." In an important tempering of that valid judgment, however, the same assessment went on to note, no less correctly, that "ISIS's claim to legitimacy was rooted in its establishment of a physical state, and by 2014, to defeat that claim entirely meant that a ground force would have to reoccupy and readminister areas captured by the jihadis." Accordingly, it concluded, while "airpower was the primary killing mechanism, [it] was insufficient on its own to accomplish the coalition's mission."[29]

A Complicating Issue of FSCL Placement

One major constraint on the overall effectiveness of the fight for Mosul that was self-imposed by CJTF-OIR's U.S. Army leadership, with its entrenched land-warfare mindset, was that leadership's firm and unyielding insistence on imposing and maintaining a fire support coordination line, or FSCL (pronounced "fissile"), positioned a full twenty miles beyond the campaign's forward line of friendly troops, or FLOT.[30] That arrangement, by standard joint doctrinal practice, required that all coalition air strikes within any portion of the battlespace inside the FSCL be first closely coordinated with and then approved by the supported ground commander.

By way of some essential basics here, the FSCL was the primary fire support mechanism applied for dividing CJTF-OIR's battlespace between its land and air participants. Any enemy terrain on the far side of the FSCL was essentially a free-fire zone for the air players since there could be no possibility of ISF troops coming into contact with ISIS combatants in that portion of the battlespace. All approved targets on that side were accordingly open to attacks from the air. The terrain on the near side of the FSCL, in contrast, was properly the land commander's assigned battlespace. Target areas that lay within that terrain were closed to attack from the air unless the land component commander expressly opened them for a finite window of time to permit air attacks under the control of properly trained and certified ground-based JTACs.

As was later noted by General Isler, who at the time was also serving as CJTF-OIR's JACCE director, there were indeed linear and static portions of the battlespace within ISIS-controlled parts of Iraq in which the imposition of a FSCL would definitely have "made sense, especially along the Kurdish

FLOT" that was drawn in generally open terrain. But in Mosul's far more built-up and challenging urban battlespace in which day-to-day combat progress would inevitably entail block-by-block slow going, General Isler pointed out that CJTF-OIR's having insisted on a FSCL placed far enough forward into enemy territory that would have required "months" to be freed imposed a pronounced hindrance on coalition air operations. As he later rightly recalled, CJTF-OIR's "limiting air component actions short of the FSCL [in that manner] artificially limited the joint force overall."[31]

"Even worse," he continued, "CJTF-OIR directly linked ISR allocation for the FSCL, [and] areas short of the FSCL were not available to tasking from CJTF-OIR's ISR, which was the majority of the more capable platforms and almost all of the MQ-9s. As a result, the most capable urban ISR platforms, U.S. Air Force-operated MQ-9s, were kept out of most of the Mosul fight, with only one … being used during [Operation Eagle Strike] for most of the urban portion of the fight." That informed recollection went on to note that this restriction had been adamantly insisted on by CJTF-OIR's deputy commander and chiefs of operations and intelligence and was "aggressively fought" by the CAOC; by himself as the organization's JACCE director; by the commander of the 432nd Air Expeditionary Wing that was operating the MQ-9s from Creech AFB, Nevada, Colonel Cunningham; and even by CJTF-OIR's subordinate land component commander, "but was not changed. These decisions also directly affected target development in the enemy's support zones, which allowed ISIS to retain combat power and significantly delayed ISF seizure and clearance of the city."[32]

This was not the first time in American combat experience when such parochial Army insistence on a doctrinal prerogative that was arguably due it in principle needlessly impeded an ongoing offensive. Similarly, during Operation Desert Storm in early 1991, long before CENTCOM's four-day ground push was finally unleashed only after a full month of intensive prior air preparation, the U.S. Army's corps commanders bridled vocally at General Schwarzkopf's steadfast refusal to allow them to extend the FSCL even an inch into Iraqi territory until their land offensive was actually under way. Once that planned ground effort was at long last about to begin, the Army's XVIII Airborne Corps advanced the FSCL well north of the Euphrates River in an express move to preclude CAOC control of that

airspace and thus reserve an area for Army attack helicopter operations unconstrained by any need to coordinate those operations with the air component commander, Lt. Gen. Charles Horner. Indeed, during the war's final fourteen hours, the FSCL was pushed back and forth repeatedly as the two CENTCOM components sought maximum flexibility for their own forces. As the U.S. Air Force's exhaustive Gulf War Air Power Survey later concluded on this score, "the effect of this [Army] use of the FSCL was to hamper [coalition] air power's ability to destroy escaping Iraqi ground forces until the FSCL was finally pulled back after several hours."[33]

Amplifying further on the opportunity costs occasioned by this U.S. Army practice, in his formal presentation to the Commission on Roles and Missions in September 1994, the U.S. Air Force's chief of staff at the time, Gen. Merrill McPeak, indicated that on the third day of Desert Storm's ground offensive, the Army's corps commanders had fixed the FSCL well beyond their ability to affect the close battle with their own organic artillery and attack helicopters, just as occurred again a quarter of a century later during CJTF-OIR's battle for Mosul in 2016, and that for seventeen hours as a result, the XVIII Airborne Corps commander prevented CENTCOM's air component from interdicting the main resupply line connecting Baghdad and Kuwait. McPeak further noted that a similar extension of the FSCL inside the Kuwaiti Theater of Operations by the U.S. Army's VII Corps commander had the effect of creating a sanctuary from air strikes on Iraqi Republican Guard units, whose commanders took every advantage of that windfall opportunity to mount an escape to Basra. Although Schwarzkopf had expressly directed his air commander, Lieutenant General Horner, to engage and destroy those elite Iraqi forces, his ground commanders, according to McPeak, "acting in accordance with established joint doctrine, unilaterally placed boundaries which effectively contradicted Schwarzkopf's theater priorities." That, said McPeak, showed dramatically "what can happen when boundaries are set by people who do not have full authority over military operations on both sides of the seam."[34] On this point, a U.S. Air Force fighter pilot who had served as an air liaison officer with the 101st Airborne Division during Desert Storm later noted that a big part of the problem in that instance was an outdated conception of "close air support." As he bluntly put it, "what we really have is either air power applied in close proximity to troops or air power applied not in close

proximity to troops. Definitions and lines on maps that don't allow the flexibility required by nonlinear battle plans should be scrapped."[35]

Likewise during the major combat phase of Operation Iraqi Freedom in March and April 2003, an atypically deep FSCL was applied by CENTCOM's land component at the start of the campaign's ground offensive with the avowed intent to prevent allied ground forces from overrunning the FSCL during their rapid advance, outstripping their supporting joint fires, and running the risk of sustaining inadvertent attacks on friendly ground troops by allied aircraft. However, this deeply positioned FSCL often worked at cross-purposes with the land component's best interests since it prevented the conduct of often urgently needed interdiction and CAS by allied fixed-wing airpower. Indeed, doctrinally imposed limitations on the joint delivery of fire support, especially with respect to the placement and use of the FSCL, was a continuing bone of contention between the air and land components that many airmen felt unduly inhibited the most effective application of joint fires when it came to the air component's efforts to support V Corps. Military affairs analyst Michael Knights touched the heart of this issue when he later wrote that "battlespace is a jealously-hoarded commodity in modern warfare."[36]

During the initial allied ground move into Iraq in mid-March 2003, Lt. Gen. David McKiernan, USA, the campaign's land component commander, with the concurrence of CENTCOM's overall JTF commander, Gen. Tommy Franks, USA, extended the FSCL to eighty-four miles ahead of the line of advancing coalition ground forces. That move had the inevitable side effect of severely stressing needed tanker support for CENTAF's strike fighters by extending the need for such support that much farther north. Similarly, to facilitate a planned Apache attack helicopter assault on the night of March 24, General McKiernan moved the FSCL forward dozens of miles in front of coalition forces. That decision, said his ACCE director, Maj. Gen. Daniel Leaf, USAF, "cost us [the air component], basically, a full night of fixed-target strikes inside the FSCL."[37] Nevertheless, as a matter of standard practice, the U.S Army's V Corps positioned FSCLs farther than the usual distances ahead of the FLOT because of an anticipated rapid rate of allied ground advance. As an assistant to General Leaf later recalled on this point: "Every day, General Leaf would arrange for the FSCL to be

pulled a little back, but every night the Army majors would throw it far out again."[38]

With the FSCL having been placed so far forward of the FLOT at the start of the land component's march toward Baghdad, the commander of V Corps, Lt. Gen. William Wallace, USA, insisted on positive JTAC control for all air-to-ground operations inside the FSCL. That measure without question allowed General McKiernan and his subordinate land commanders to control a larger portion of the battlespace in front of their advancing units, which would have been entirely appropriate for such an impending linear engagement against massed enemy ground troops in open terrain. Yet Operation Iraqi Freedom, just like Operation Inherent Resolve against ISIS thirteen years later, was instead envisaged and planned from the very start to entail nonlinear engagements in or near often congested urban areas. As a knowledgeable former U.S. Army officer later affirmed on this score, the coalition's war plan for Iraq "emphasized nonlinear ground operations," the result of which was "a battlefield with no clear front and rear areas."[39] The net result of the land component's pushing the FSCL out as far as it did was to place the latter beyond the land component's ability to deliver usable combat effects while, at the same time, constraining the CAOC's effectiveness in trying its best to compensate for that self-imposed inhibition. The same exact move and result seems to have occurred yet again in 2016 in CJTF-OIR's push to liberate Mosul.

Indeed, in this respect the land component's practice during Operation Iraqi Freedom in early 2003 seemed at times to have been in direct contravention to the guidance promulgated in Joint Publication 3-0, *Doctrine for Joint Operations*, which stipulates that "placement of the FSCL should strike a balance so as not to unduly inhibit operational tempo while maximizing the effectiveness of organic and joint-force interdiction assets."[40] In a similar spirit, Joint Publication 3-09, *Doctrine for Joint Fire Support*, stipulates that "the decision on where to place or even whether to use an FSCL requires careful consideration. If used, its location is based on estimates of the situation and [concepts of operations]. Location of enemy forces, anticipated rates of movement, the concept and tempo of the operation, organic weapon capabilities, and other factors are all considered by the commander…. Placing the FSCL at greater depths will typically require support from higher organic [headquarters] and other supporting

commanders."[41] For its part, Air Force Doctrine Document 2-1.3, *Counterland Operations*, likewise specifies that "the optimum placement of the FSCL varies with specific battlefield circumstances, but typically it should be placed where the preponderance of effects on the battlefield shifts from the ground component to the air component. In this way, the FSCL placement maximizes the overall effectiveness of the joint force, and each component will suffer only a small reduction in efficiency."[42] As was attested by the recurrent problems encountered by the air component in delivering CAS most efficiently throughout V Corps' area of operations, these accepted stipulations of joint doctrine were not uniformly honored by V Corps during at least portions of the three-week campaign to topple Saddam Hussein's regime. Much the same occurred at CJTF-OIR's behest more than a decade later in its quest to free Mosul from ISIS control.

After allowing that there remained essential work yet to be done by the Army and Air Force toward reconciling these still-unsettled issues, General Wallace acknowledged and accepted the complaint voiced by many airmen that V Corps had "pushed the FSCL too deep during [the campaign] and made attack short of the FSCL difficult."[43] Then, rather than taking sides regarding the issue, he offered a way out that should have been agreeable to all by insisting that achieving desired effects against enemy force dispositions as quickly as possible was what mattered most in the air-ground interface. Toward that end, he said, "the FSCL … must be modified to facilitate rapid joint attack short of the FSCL" since the quest for "joint effects in complex terrain demands it."[44]

By all indications, that sage advice from a U.S. Army three-star was roundly forgotten thirteen years later by those who planned and oversaw the ultimately successful but also highly inefficient U.S. Army–led battle for Mosul. One can only hope that the needed lesson from that untoward experience was belatedly relearned and duly assimilated at least by the authors of the Mosul Study Group's report, which clearly spotlighted a revealed need in such circumstances for the joint community to "rethink the application of battlefield geometries, such as the fire support coordination line, to optimize the integration and synchronization of air assets with maneuver."[45] As a U.S. Air Force F-16 pilot who flew in two combat rotations in OIR added helpfully on this score: "It all starts with defining your sought-after endstate and desired effects rather than starting with

capabilities, as the Army's planning does. If you start with 'what effect do I need to make Mosul look like X within time Y,' you will probably reach a battlefield organization that makes sense to achieve that effect and endstate, rather than saying 'we have these capabilities, so we can potentially achieve X,' which would lead to airspace hoarding and a FSCL too far out."[46]

For his part, looking back on this issue while not actively being involved in the fight for Mosul himself, CJOC-B's most experienced JTAC at the start of OIR later remarked that he personally

> would have suggested a 10-mile FSCL at most and a split-component strike cell to manage strikes, such that one half of the cell focused on direct support inside the FSCL to assist partnered forces and our forward JTACs and the other half be dedicated beyond the FSCL to help with vetting and striking targets there. I still would not have advocated full release of TEA to air commanders back at the CAOC for the areas immediately beyond the FSCL, however, but the cell portion devoted to that battlespace would have had much more freedom of maneuver to facilitate rapid strike approval on targets found that deep because there should be almost no maneuvering friendly ground forces there involved in the counteroffensive.[47]

A New Administration Ramps Up the Intensity

As 2016 was nearing its end, Secretary Carter remarked during the last week of October that the coalition's long-planned assault on the avowed ISIS capital of Raqqa would begin "within weeks." That unguarded comment prompted one incredulous American field commander to retort: "Weeks?! I've never heard anyone say that." At that time, the only known concrete and agreed-upon coalition plan was that allied airpower would soon begin conducting determined strikes against ISIS targets of interest on Raqqa's periphery in preparation for an indigenous SDF ground push to come in due course later, and perhaps intended as well to send a signal to any Syrian civilians still residing in the city to get away from it if at all possible while there still remained enough time. Another U.S. official countered that any planned final attack into Raqqa could still be six or more months into the future, with a Pentagon representative declaring formally that "the broader question of retaking Raqqa and who does that is still open, and we're going to continue to discuss that with all of our coalition

partners." As one press account quite plausibly suggested later, that distinct walking back of Secretary Carter's "premature prediction of an imminent Raqqa assault could be more about the Obama administration trying to paint its ISIS fight in the best light during the last weeks of an election."[48]

A week later, Secretary Carter tamped down his earlier prognostication by declaring more judiciously this time that "the effort to isolate, and ultimately liberate, Raqqa marks the next step in our coalition campaign plan."[49] U.S. officials added that the looming effort to evict ISIS from Raqqa would be conducted in three phases, with the first having already been under way for many months with preparatory air attacks having been performed in and around the city to eliminate key ISIS command-and-control facilities and fighting positions. The second phase would entail an accelerated effort to isolate Raqqa and cut it off from resupply, with the third constituting the fight actually to recover the city itself, ideally to be undertaken mostly by anti-Assad Syrian Arabs and aided by as many as three hundred embedded U.S. SOF advisers and JTACs working on the ground alongside the Kurdish and Syrian Arab forces.

In all, as the force buildup for the impending recapture of Raqqa by Kurdish-led and U.S.-backed SDF combatants, to be dubbed Operation Euphrates Rage, was gaining momentum toward the end of 2016, CENTCOM posted its highest-ever number of monthly air strikes against ISIS that year, with 5,747 weapon releases representing the coalition's most intense and concentrated bombing effort that entire year, making for an annual total up to that point of 27,800 munitions expended in all, a number well on track to exceed the 28,696 munitions that had been delivered against ISIS aim points the previous year.[50] Nevertheless, despite that long-awaited and much-overdue increase in the air war's intensity at long last, CJTF-OIR's new commander, Lieutenant General Townsend, was still anticipating that it could take two more years of comparable hard work to finish clearing out the last remaining holdouts from Mosul and Raqqa.[51]

With the unexpected election of Donald Trump on November 8, 2016, to succeed Barack Obama as the next American president, hopes quickly rose among many that a more determined approach would soon be in store for an escalated final round of CENTCOM's long-stagnated war against ISIS. On the eve of Trump's inauguration on January 20 the following year, news reports widely anticipated that the Department of Defense would soon

be providing the new administration with concrete options aimed at accelerating the pace of the ongoing fight. More than a few of those options had already been developed and put forward by the American defense establishment during the last two years of Obama's incumbency, but the White House had never approved them for implementation. At their core was a recommendation for CENTCOM to insert hundreds, if not thousands, of additional U. S ground troops to work with the ISF in Iraq and with Kurdish elements of the anti-Assad SDF in Syria, not with any intent to engage in combat against ISIS directly but rather to help control access roads on the outskirts of embattled towns and to call in precision air strikes against ISIS positions, much as CENTCOM had done during the major combat phase of Operation Enduring Freedom against the Taliban and al-Qaeda in Afghanistan during the last three months of 2001.[52]

As for the Pentagon's still-gestating plans for the final assault on Raqqa, news reports on the eve of President Trump's inauguration indicated that the search for a workable battle plan had dragged on without resolution for more than seven months, with scores of alternative options having been submitted to the White House and with hundreds of hours of deliberations said to have been wasted in dozens of meetings with President Obama and his most senior national security subordinates. By one informed account, Obama and his team temporized for so long over the liberation of Raqqa that once a workable plan seemed to be coming together at long last, too little time remained for an effective implementation of it under their auspices. This borderline obsessive micromanagement of options planning for the war against ISIS from the outgoing White House seemed at times all too reminiscent of the way in which President Lyndon Johnson oversaw the nation's ultimately failed Vietnam War during his one elected term in office, with similar top-down interference from afar to the point of selecting enemy targets and even deciding on the most minute tactical details of impending air attacks with his secretary of defense, Robert McNamara, during regular Tuesday luncheon meetings in the White House, with no senior military representatives present for those discussions.

For their part, President-Elect Trump's most senior defense principals-in-waiting let it be known in no uncertain terms that with the impending change in administrations now looming ever closer, *they* would be the ones to oversee any eventual effort to liberate the would-be caliphate's avowed

capital. Accordingly, on January 17, just three days before Trump's scheduled assumption of office, President Obama directed his national security adviser, Susan Rice, to hand over to the Trump team a White House working paper that detailed how his administration had envisaged arming the Kurdish Peshmerga in support of the impending assault to retake Raqqa. After having duly digested that paper, Trump's team summarily rejected it, having concluded that the previous administration's proposed approach was so incremental and risk-averse that it was all but sure to fail. One of Trump's leading national security advisers reportedly said of the document: "They provided us the information, but we found huge gaps in it. It was poor staff work." The journalists reporting this experience added that "Obama [had] sweated the smallest details of U.S. military operations, often to the point of inaction." For his part, Trump made it clear to all that he wanted to implement a more energetic plan that would "utterly destroy" ISIS both in its avowed capital and more generally throughout the region. He further instructed his chosen secretary of defense, General Mattis, to ignore henceforth all previously imposed restrictions on allowable U.S. troop numbers for the campaign's remaining duration as well as the maximum number of allowable inadvertent civilian fatalities from future bombing attacks that had for so long been insisted on by Obama's White House.[53] As tangible evidence of this impending stepped-up effort, the air attacks conducted by all of the involved U.S. services and other coalition countries in January and February 2017 delivered more than seven thousand precision weapons against ISIS targets in Iraq and Syria in all, making for the greatest number of munitions released during any two-month period since OIR began more than two and a half years before.[54]

By May 2017 CENTCOM had substantially increased the tempo of its daily air operations as the battle to retake Mosul had begun shifting into high gear. In an interview late that month, Secretary Mattis stressed that the administration's intention was now "to accelerate the campaign against ISIS … [by shifting] from attrition tactics, where we shove them from one position to another in Iraq and Syria, to annihilation tactics, where we surround them." The campaign's new goal, Mattis added, was to halt any further movement of ISIS and to "take apart the caliphate." For that to happen, he remarked in an implicit barb aimed at the previous administration, "the best thing you can do at the top level is get the strategy

right. You have to get the big ideas right, and then you delegate to those who have to execute that strategy to the appropriate level." Mattis insisted that there would be "no relaxation in [the administration's] intention to protect the innocent" by altering the existing rules of engagement, but he quickly went on to say that despite the best efforts toward that end "consistent with military necessity," the likelihood of civilian casualties remains "a fact of life in this sort of situation."[55]

Likewise, by early May 2017 the ISF's chief of staff, Lt. Gen. Othman al-Ghanmi, was projecting that his service's ongoing fight to free Mosul, by then in its seventh month, would most likely be won "in a maximum of three weeks," with the assessed number of remaining jihadist holdouts in the city now thought to be well short of a thousand diehards as clearing weather opened up new opportunities for the coalition's manned aircraft and RPAs to provide on-call strike support as needed.[56] Also that month AFCENT was reporting that the number of bombs dropped to date that year on ISIS targets had been up by around 50 percent from the year before, which a command representative said could be "attributed to the increased pace of operations in both Iraq and Syria" in response to the new administration's delegation of greater authority to local commanders to approve requested air strikes.[57]

Late the following June ISF combatants fighting against some 350 ISIS militants who were dug in and commingled with Iraqi civilians in Mosul's Old City finally dislodged all the remaining jihadists from the wreckage of the famed mosque from which the Islamic State's founder and leader, al-Baghdadi, had first proclaimed his caliphate in 2014, and they were said to be just days away from driving all remaining ISIS stragglers completely out of the Old City.[58] At that time Prime Minister al-Abadi announced confidently that "we are seeing the end of the fake Daesh state. The liberation of Mosul proves that."[59] Nearly six months later Iraq finally celebrated its hard-fought defeat of ISIS's corrosive presence within the country with a military parade in central Baghdad that featured Iraqi helicopters and F-16s flying overhead the day after al-Abadi declared the successful ouster of the jihadist movement, stating: "Our forces are in complete control of the Iraqi-Syrian border, and I therefore announce the end of the war against Daesh."[60] For its part, the U.S. Department of Defense stopped short of issuing such a definitive declaration, noting that

close to a thousand ISIS fighters remained holed up in Iraq and that coalition combat operations against them were continuing.[61]

By that point in the campaign most of what remained of the jihadist movement's central core of leaders had long since fled to remote rural hideaways in the middle Euphrates River valley, where coalition air strikes were said to have taken a heavy toll on targeted senior subordinates to al-Baghdadi.[62] However, just hours after Prime Minister al-Abadi declared Mosul finally freed from the last remnants of ISIS control, General Townsend cautioned that the defeat of ISIS in Iraq's second-largest city "doesn't mean that ISIS is finished in Iraq…. [There] is still tough fighting ahead."[63] Authoritative early projections of the likely cost to rebuild Mosul exceeded $1 billion, with nearly all of the damage requiring repair or replacement having been caused by the nonstop bombing, artillery and other heavy-weapons fire that had largely enabled the city's liberation.

In mid-July 2017 Secretary Mattis, Secretary of State Rex Tillerson, and General Dunford delivered a ninety-minute-long classified campaign update to the full U.S. Senate. After that presentation, the Senate Foreign Relations Committee's chairman, Senator Bob Corker (R-Tenn.), said of the briefing's highlights: "It's sort of a whole different kind of effort that's under way…. There's just a lot more clarity, a lot more focus on annihilation…. You can just tell there's a renewed energy, renewed focus and they are not playing around."[64] Asked shortly thereafter by Washington reporters to summarize the briefing's bottom-line conclusion, Secretary Mattis replied simply: "We're winning. They're losing. How about that?"[65] In a separate interview he gave during the annual Aspen Security Forum, the commander of U.S. Special Operations Command, Gen. Tony Thomas, USA, expanded further on Secretary Mattis's upbeat message: "We have absolutely dismantled [al-Baghdadi's] network. I mean everyone who worked for him initially is dead or gone. Anyone who stepped to the plate the next time [is] dead or gone. Down through a network where we have killed, in a conservative estimate, 60,000 to 70,000 of his followers, his army."[66] General Thomas added that the marching orders he had received from Secretary Mattis were very clear: "It was [initially] 'defeat ISIS.' It's now 'annihilate ISIS.' I think he put a non-doctrinal term out there to amp up the volume a little bit. We all got the message."[67]

From his engaged perspective on the war's gradual unfolding as viewed from the trenches starting early on, the lead JTAC assigned to the Baghdad CJOC for much of the effort's first phase later insisted, fairly enough, that it would be "a mischaracterization to say that the Trump administration completely turned around a previously failed campaign. The strategy … continued on the exact same path as the one it had been on, the only difference being that some of the umbilical cord to Washington was cut. That first year of the Trump administration simply took advantage of the massive success against ISIS that had already taken place [and] did a good thing in handing the reins fully to Mattis, thereby allowing them to take credit."[68] Notwithstanding that reasonable assessment as far as it went, however, with the coalition's effort to wrest Mosul from ISIS's rule having begun in earnest only in October 2016, it had taken the Obama administration more than two years after the jihadists seized that key city to begin pressing for a determined ISF push to take it back, with all needed U.S. support.

At the same time, in full appreciation of the facts bearing on that long-delayed success, it is crucial not to forget who was at the forefront in finally repatriating Mosul—namely, the Iraqis themselves. As a U.S. Air Force F-16 pilot who flew combat sorties in support of that signal accomplishment later rightly noted, "When you work with a coalition, you unfortunately work on the slowest mover's timetable. That's why it was difficult to ramp up CAS strikes early on and to include some of the other coalition aircraft in those strikes. Certainly the new administration in Washington made it easier to wage this offensive, but the timing wasn't mostly ours. Of course, had we wanted to increase our air attacks earlier, we arguably could have done more on the interdiction and strategic targeting front to shape the battlefield in a more timely way."[69] In any event, by the following March, with the new administration now having taken the lead and with coalition air involvement by then said to have been "pivotal," the city's remaining western neighborhoods were finally surrounded by coalition forces, with ISIS by that time, having lost more than 60 percent of the Iraqi territory it once held.[70] By the end of July 2017 ISF units directly involved in the fight to free Mosul experienced their first day without having suffered any casualties since the preceding October, and coalition combat aircraft by that time had conducted no air strikes into the city for two weeks.[71]

By one informed account regarding the ISF's operations on the ground to retake Mosul, the forward air controller with eyes on a target of interest had most often been an Iraqi rather than an American, and the ground commander who actually called in a request for an air strike was also an Iraqi officer, although the U.S.-led coalition still ultimately reserved for its own overseeing senior officers the decision as to whether or not to approve such a request.[72] Furthermore, in yet another testament to Iraq's growing military self-sufficiency since its army collapsed in the face of the initial ISIS onslaught beginning in 2012, the Iraqi air force by early 2017 had 18 F-16C fighters of its own routinely operating out of Balad air base and flying two to four combat sorties a day against ISIS targets, with another six C-130Js each flying four to six missions a day from the new al-Muthana air base located near BIAP. The Iraqi C-130s were mainly used to support the ISF's battle for Mosul by flying into the Qayyarah Airfield West to resupply ISF troops on the Mosul front, as well as by shuttling Iraqi soldiers to other forward fighting positions as required. Iraq's F-16s did not operate in direct conjunction with U.S. and other coalition aircraft, but their daily missions were routinely coordinated with the CAOC to ensure proper airspace deconfliction and to make the most of shared targeting priorities within the coalition.[73]

The Long-Awaited Liberation of Raqqa

Ever since the preceding November 2016, large units of anti-Assad SDF combatants and their supporting U.S. SOF teams had been steadily encircling Raqqa for an impending final assault to free the city by either killing or driving out the last remaining jihadist holdouts from the proclaimed capital of their would-be caliphate. Six months later, in early May 2017, the SDF successfully completed a major step toward that daunting goal by recapturing the ISIS-held town of Tabqa some thirty miles west of Raqqa.[74] With the coalition's focus now shifted to the looming battle for Raqqa itself, CJTF-OIR's commander, Lieutenant General Townsend, was asked the previous month for any insights he might have into the latest whereabouts of ISIS's leader al-Baghdadi. General Townsend replied that he had "no clue" as to where the elusive al-Baghdadi might be ensconced but added that he had seen no reporting that might suggest "that anyone else is giving the orders. He's a survivor. He's keeping an extraordinarily low profile, and he's not up on the comms [or] publishing

audiotapes to give orders."[75] On that important count, however, U.S. intelligence sources reportedly did determine later on "with a high degree of confidence" that al-Baghdadi had been wounded while in Raqqa during a coalition air strike in May 2017 that had required him to relinquish control of ISIS for as long as five months owing to the injuries he was thought to have sustained. It was not made clear in that report, however, whether he had been expressly targeted or if his having been injured in the attack was just a happenstance result.[76] Also of special note regarding the coalition's pending move to retake Raqqa, American strike fighters in mid-May 2017 bombed a convoy bearing Syrian flags after it had driven too close to a U.S. SOF team's position and then failed to acknowledge and duly respond to multiple warnings from the CAOC, making for the first-ever instance of American kinetic action taken against Assad's forces in the entire six-year Syrian civil war up to that point. The Syrians' Russian advisers were first alerted via a hotline that had been expressly put in place by General Brown between the two countries for handling exactly such a potential circumstance by ensuring deconfliction. When the Russians failed to call off the Syrian convoy, it was first overflown by coalition fighters, whose pilots fired repeated warning shots in strafing passes, after which kinetic attacks finally destroyed several of the Syrian vehicles, including one tank, when the convoy refused to turn away. That attack showed a clear U.S. willingness to use force to maintain the de facto safe zones that had previously been demarcated in eastern Syria where American and British SOF teams were training local SDF militias to fight ISIS jihadists.[77] At around the same time, a Syrian Su-22 ground-attack fighter crossed into the deconfliction zone and was intercepted and chased off by two U.S. Air Force F-22s. Secretary Mattis later said of the two incidents: "We are not increasing our role in the Syrian civil war, but we will defend our troops."[78]

Meanwhile, as the United States finally began arming Kurdish Peshmerga fighters with heavy machine guns, antitank weapons, and other needed armaments for their impending move to retake Raqqa, Turkish officials who had long considered a Kurdish faction called the YPG (for Yekineyen Parastina Gel, or "People's Protection Units") to be a terrorist group issued a veiled threat to end any further U.S. operations launched from Incirlik Air Base, a major launch and recovery point for coalition aircraft in the fight against ISIS.[79] Fortunately those threats never came to

pass, but they made for enough of a warning notice regarding the uncertainty of the base's future availability that the United States began reducing its dependence on it after the heaviest fighting ended in early 2018.[80] As initially planned, however, SDF fighters by the end of May 2017 finally reached the northernmost entrance to Raqqa, with intensified supporting air attacks conducted recently along the city's northern and western edges as the now months-long Operation Euphrates Wrath, first begun the previous November, aimed toward eventually surrounding and finally seizing and liberating Raqqa.[81]

Throughout the broader war zone, coalition airpower continued to play what the CAOC called a "decisive role" in further eroding the jihadist movement's fighting strength, with nearly 4,400 munitions having been delivered against a wide variety of targets just in May alone of that year, the highest monthly total registered since the air war's onset in early August 2014. Those air attacks concentrated on targeting retreating ISIS fighters in compliance with Secretary Mattis' new stress on crushing the enemy in place decisively in order to keep the jihadists from migrating elsewhere so they could later return to the fray and continue to fight another day. On that score, Mattis spoke frankly of the changed effort against ISIS under the new administration as an "annihilation campaign so we don't simply transplant this problem from one location to another."[82] The stepped-up bombing of ISIS also included sustained attacks against so-called deep-fight targets, including some four hundred oil wellheads, oil tanker trucks, and related infrastructure targets.[83]

At the start of June 2017 Pentagon officials announced that the SDF's long-awaited move to retake Raqqa would begin in just days now that more than 200,000 of the city's residents had fled to nearby refugee camps as the clock for the impending assault continued to wind down. Fewer than 1,000 ISIS jihadists were thought at that time to remain still hunkered down in the city, holding on to some six square miles of urban terrain and with another 80,000 to 150,000 civilians still trapped in the city's center.[84]

The final battle for Raqqa began when SDF units accompanied by U.S. SOF teams working alongside them stormed ISIS-held buildings in the eastern portion of the city as coalition strike fighters and attack helicopters, along with artillery fire provided by U.S. Marine Corps howitzers, concurrently struck at key ISIS fighting positions in the area. The coalition

had previously spent many months launching air attacks aimed at cutting off all supply lines leading into Raqqa. Supporting American SOF teams and other foreign ground troops working in an "advise, assist and accompany" role did not themselves participate in direct combat against ISIS, but they worked closer to the fight's leading edge in the battle for Raqqa in Syria than they ever did during the earlier successful fight to retake Mosul in Iraq.[85]

As the final assault began, most of ISIS's leadership was thought to have already escaped the city in early anticipation of the impending attack.[86] For his part, CJTF-OIR's commander, Lieutenant General Townsend, said that the looming battle for Raqqa would be "long and difficult" but that, along with the ISF's recent success in Mosul, it would "deliver a decisive blow to the idea of ISIS as a physical caliphate," making it ever more difficult for the jihadist organization to attract new recruits by convincing them that ISIS "is a winning cause when they just lost their twin capitals in both Iraq and Syria."[87]

By the end of June 2017, three years after ISIS first declared its caliphate in its occupied portions of Iraq and Syria, the movement was assessed as having lost 80 percent of its initial revenue holdings, down from $81 million in the second quarter of 2015 to $16 million in the second quarter of 2017. During its initial rise to power and preeminence, the jihadist movement had more than $2 trillion in fungible cash and other equity assets under its direct control and had an assessed annual income of $2.9 billion, all holdings that the Obama administration had steadfastly refused to target and attack until more than a year into its initially halting effort against ISIS.[88]

All of this, of course, yet again raised a most pertinent and legitimate question as to why that administration had chosen to temporize for more than a year of relatively slow-motion air attacks against mostly tactical-level ISIS targets before finally committing itself in earnest to a more heightened and effective level of effort. As for the good news, coalition aircraft in March 2017 delivered 3,878 precision munitions against approved target aim points, the most such kinetic events ever posted to date in a single month for the two-and-a-half-year air war, more than a few of which were in direct support of ongoing ISF and SDF efforts to retake Mosul and Raqqa.[89]

By mid-March 2017 SDF units finally succeeded in sealing off Raqqa from the north, east and west, with associated coalition air strikes having concurrently destroyed the bridges over the Euphrates River to the south, thus ensuring the coalition's effective isolation of the city.[90] As that month was ending, SDF units and their embedded U.S. SOF teams and JTACs were close to wrapping up what the CAOC called the "isolation phase" of their impending operations to liberate Raqqa, and they would continue those operations at a more intensified level in the ensuing months to free the city from its occupation by the jihadists. Earlier that month, SDF combatants isolated the eastern side of Raqqa and were now engaged in a hard-fought battle to reclaim both the Tabqa dam and the city of Tabqa to the immediate west of Raqqa.[91]

In still further support of the now-imminent SDF offensive to free Raqqa, the U.S. Air Force established a forward bare base near the town of Kobani located about ninety miles north of Raqqa. That Kurdish town on the Turkish–Syrian border had previously been freed from ISIS control during the campaign's first six months by coalition forces, with a heavy U.S. air involvement, following a 112-day siege.[92] Before the makeshift airstrip could be rendered usable, the nearest substantial air bases for facilitating coalition air strikes in support of the looming fight to free Raqqa had been at Incirlik and Diyarbakir in Turkey. The bare-base runway at Kobani was accordingly strengthened to support not only C-130s but also C-17s, which required a more substantial landing strip to accommodate their greater operating weight. The 621st Contingency Response Group of U.S. Air Mobility Command had first laid down the basic airfield at Kobani in 2016 and also had readied the airfield at Qayyarah West in northern Iraq to support the impending battle to retake Mosul. Earlier in 2015 that same unit also established an operable airfield at the former Iraqi al-Taqaddum air base during Saddam Hussein's years in power to support the now-imminent battle to liberate Ramadi.[93]

For a time, it was reported that President Trump's second national security adviser, Lt. Gen. H. R. McMaster, USA, was questioning the assumptions of a draft plan being considered that envisaged only a light U.S. footprint on the ground in Syria, with intimations emanating from his unnamed critics that he was seeking to send "tens of thousands" of American ground troops into the Euphrates River valley to clean out the

rest of the ISIS holdouts thought to be hunkered down there. By that account, McMaster's short-lived predecessor in that assignment, Lieutenant General Flynn, had argued strenuously *against* sending any substantial number of conventional ground troops into such a complex war zone where they might become directly exposed to ISIS and al-Qaeda as inviting targets. For the most part, however, the predominant view emerging from the Pentagon seemed principally to be simply a desire for a lifting of the most onerous restrictions on the use of U.S. SOF teams and for a relaxation of the ROE aimed at limiting civilian casualties to the barest acceptable minimum so as to permit a more robust use of airpower in the looming fight to liberate Raqqa.[94]

More encouraging yet, in the midst of the ISF's final push to retake Mosul in late March 2017, Prime Minister al-Abadi of Iraq visited President Trump in the White House at the latter's invitation, where they discussed "how to build upon the Strategic Framework Agreement our two countries signed in 2008," as al-Abadi recalled afterwards, with a view toward retaining a strong American presence in Iraq for long enough to "secure and stabilize [its] communities and prevent ISIS and al-Qaeda from reemerging."[95] Of this important desire by Iraq's prime minister for closer U.S. cooperation with Baghdad within the broad framework of that agreement, a former American ambassador to Iraq during the time of Obama's final troop withdrawal from that country at the end of 2011 wrote that for any such arrangement to be accepted by the Iraqi rank and file, the latter would need to be persuaded that any such extended U.S. presence in Iraq would be restricted to continuing the fight against terrorism and ensuring that the reconstituted Iraqi army that had been key to finally driving ISIS out would not once again collapse under renewed threats, as it did in Mosul in 2014 when ISIS jihadists first assaulted that city in force. He further suggested that any such American troop presence would need to be limited in both size and duration and that the five thousand or so U.S. troops that had been contemplated in 2011 would most likely be the maximum number that would be politically sustainable, with their mission expressly limited to training and equipping the ISF and to providing Iraq intelligence and counterterrorism assistance and possibly also some essential air support.[96]

Consolidating a Successful Endgame

By mid-May 2017, with an estimated seven thousand U.S. military personnel now back in Iraq, negotiations between Prime Minister al-Abadi and the U.S. government finally began in quest of a new agreement that would allow for a set number of American troops to remain in Iraq indefinitely in a noncombat role as a stabilizing presence to help prevent any chance of a resurgence by ISIS. Those talks received a helpful boost when a key Iraqi Kurdish official, Masrour Barzani, the son of the Kurdish regional government's leader, Masoud Barzani, announced that he and his father would happily consent to U.S. forces remaining in Kurdistan. On that important score, he said: "We have always been in favor of having American troops in the country."[1] In an early hint of the difficult passage that any determined quest for such an arrangement might encounter along the way, the Shi'ite-dominated Iraqi parliament, with all but a few of the 177 voting lawmakers present, insisted that al-Abadi's government set a clear timeline for the eventual withdrawal of all foreign troops remaining in the country after Iraq completes the transition from wresting all remaining territory away from ISIS to consolidating its resulting gains and rebuilding the country.[2] However, General Townsend, in giving voice to his considered thought regarding the importance of the United States, as well as perhaps a few other coalition countries, maintaining a stabilizing presence in Iraq even after ISIS is decisively done in, said in a cautionary note regarding the likely cost of any failure to achieve such a reasonable agreement: "All of us can look back to the end of 2011 when the U.S. and coalition forces left Iraq the last time and see what played out in the intervening three years. I don't think we want to replay that."[3]

The Final Rout of the Would-Be Caliphate

In August 2017 coalition aircraft dropped 5,075 bombs on ISIS aim points in Iraq and Syria, more than during any previous month since Operation Inherent Resolve first began.[4] This was also about ten times the number that were dropped during the effort's initial halting month of August 2014. A month and a half later, in mid-October, more than three thousand Syrian citizens managed to escape from heavily embattled Raqqa in a single night,

thereby emptying the city of most remaining innocents who might be captured by ISIS jihadists for use as human shields and clearing the way for what the SDF's leadership was now declaring to be the final phase in the long-awaited liberation of that last remaining large ISIS-held city.[5] As one early after-action report aptly portrayed it, the final collapse of the last ISIS holdouts in Raqqa "completed the slow-motion demolition of the world's only utopian movement worthy of the name."[6] That signal achievement was the ultimate capstone of the campaign's earlier successive liberations of Hawija, Tal Afar, and Mosul in Iraq.

During an invitational address at Jordan's National Defense School toward the end of the following January 2018, CENTCOM's latest-assigned commander, Gen. Joseph Votel, USA, declared that, while there was still "very tough fighting" under way against the remaining ISIS diehards in the middle Euphrates River valley, "the timeline for the military defeat of ISIS can now be measured in weeks."[7] By that late stage in the American command's more than four-year-long endeavor, ISIS had lost 98 percent of the terrain it had once held in Iraq and Syria, with fully half of its would-be caliphate in both countries having been liberated since President Trump's inauguration the year before.

Brig. Gen. Andrew Croft, USAF, the commanding general for air to CJTF-OIR's land component and also deputy director of its JACCE from April 2017 to July 2018, reaffirmed in a later reflection on the experience as the campaign neared its endgame that the coalition, from the effort's very start, "had zero civilian casualties as [its] goal." He quickly added, however, his commonsense appreciation of the key difference between that worthy standard as a guide in principle and as an immutable requirement for all occasions when he rightly pointed out: "Obviously, that's a very difficult thing to achieve."[8] For his own part, his immediate predecessor in those same postings, Brigadier General Isler, spoke of the all-important prior intelligence preparation of the battlespace and of the command's associated need to learn as much as possible about the tactical details of the operating environment. For both Mosul and Raqqa, General Isler explained, his command's collection assets outnumbered its available strike assets by a ratio of between five to one and ten to one. And the command's intelligence soak for the liberation of Mosul alone had begun a full nine months before the ISF's ground advance toward the city began in earnest. Developing the

battlespace for Raqqa occurred along a similar timeline, and planning for both urban assaults commenced with defining the desired combat effects, which General Isler described as "the change that needs to happen in the battlespace to accomplish [the] mission."[9]

Amplifying further, General Isler added that desired combat effects can include *not* doing certain things, such as "damaging infrastructure or harming noncombatants." Seeking those effects need not invariably require kinetic measures in order for them to be satisfactorily achieved. For example, he explained, to accomplish the desired effect of stopping an ongoing ISIS counterattack, "often times just bringing in coalition fighters overhead and generating some noise is enough to disrupt their movement and stop ISIS reinforcements." He further noted that the joint teams preparing for the then-impending battles for Mosul and Raqqa "typically had ten or more weapons options available," in addition to individual fusing options to enable duly proportional target attacks. One example he offered was the GBU-54v5 very low collateral damage munition that features a casing made of carbon fiber rather than steel, giving it minimal fragmentation and blast effects compared to the fragmentation of traditional steel-cased bomb bodies. Like General Croft, who followed him as the CJTF-OIR land component's deputy commander for air, General Isler duly stressed that "everyone [in the CJTF] is committed to zero civilian casualties." However, he also frankly conceded that "sometimes you don't get there," such as in especially pressing cases in which "the intrinsic value of the target … comes [into play]."[10]

The SDF's final assault on Raqqa began on June 6, 2017, with underground tunnels that had been dug in the city by ISIS being encountered almost every one hundred meters of friendly force advance on the ground. Those tunnels offered hiding places from which often suicidal jihadists would launch sudden and aggressive counterattacks against the SDF's fighters.[11] By the middle of the following month, SDF combatants had succeeded in taking 40 percent of the city, with CJTF-OIR's deputy commander for operations and intelligence, Maj. Gen. Dirk Smith, USAF, finally reporting: "We don't see any significant counterattacks. I'd characterize them [the ISIS fighters] as being in disarray."[12] Roughly concurrently, presidential envoy Brett McGurk directly attributed the coalition's unexpected rate of success in the fight for Raqqa to what he

called “the most important change” that had taken place under the new administration’s aegis to delegate even more TEA to commanders further down the chain of command below CJTF-OIR’s commander, Lieutenant General Townsend. “The reason we’re 40 percent through Raqqa now,” said McGurk, “is because we seized that opportunity.”[13] By early August the battle to liberate Raqqa had become the single most challenging experience that American-backed indigenous forces had encountered at any time during the campaign up to that point, with fighting on the ground now taking place almost literally from house to house and with the jihadists no longer seeking to escape but instead hunkering down and “fighting to the death,” as one CJTF-OIR official reported when engaged SDF forces had still taken only 45 percent of the besieged city.[14]

At the peak of the jihadist movement’s strength in 2014, the U.S. intelligence community had assessed that as many as 40,000 foreign fighters from more than 120 different countries had been drawn into Iraq and Syria by the would-be caliphate’s magnetic appeal, an organizational achievement that offered a daunting portrait of the ideological promise that ISIS’s recruitment effort initially held out to Islamist fundamentalists around the world. Presidential envoy McGurk later described the coalition that eventually coalesced to defeat ISIS as the largest of its kind that had ever come together in history, featuring a membership of sixty-nine countries and three international organizations—the Arab League, the European Union, and finally NATO, which had belatedly signed on to the coalition in the summer of 2017 at the express urging of President Trump. Asked whether the campaign’s final liberation of Mosul and Raqqa was “essentially the Obama strategy, or did something change under this [i.e., President Trump’s] administration,” McGurk replied both frankly and honestly: “I think we’ve made some pretty significant changes in terms of delegation of authority…. It’s moving faster, more efficiently and more effectively due to some really critical changes that were made in the strategic review led by Secretary Mattis and the whole interagency team with Secretary Tillerson and the [JCS] chairman.” Gen. Joseph Dunford added that, as a direct result of those game-changing improvements, the campaign had reached “an inflection point. It’s a significant change in the campaign…. I think it’s fair to say that ISIS is on their heels right now. Our job is to make sure they don’t recover.”[15]

With Mosul freed from ISIS's control at long last after what many observers called "the decade's largest battle," and with Raqqa also finally wrested away from the grip of the jihadist movement, General Dunford accurately foresaw in late September 2017 that within six months, CENTCOM's indigenous SDF partners would have completed the liberation of that city, "and we'll be well on our way to going after the external operations capabilities and the media capability of ISIS that remains in the middle of the Euphrates River valley."[16] Around that same time, as the campaign was gradually winding down in both Iraq and Syria, well-cued coalition air strikes succeeded in taking out two senior ISIS leaders who had overseen the movement's weapons development and drone operations. One such key leader was Abu Anas al-Shami, a weapons research team chief who was targeted and killed by a timely air attack as he rode on a motorcycle near Mayadin, Syria. A separate air attack in the same region killed Junaid ur-Rehman, an ISIS engineer who had been working to weaponize drones and adapt them for conducting aerial surveillance. Most of the coalition's air strikes conducted that late in the campaign were targeted against specific ISIS leaders known to be hiding in Syria's middle Euphrates River valley, to which many of the group's last remaining leaders had migrated after their continued survival in Raqqa had become untenable.[17]

At long last, on November 17, 2017, ISF troops repatriated the Iraqi town of Rawa near the Syrian border, freeing up the last remaining urban stronghold held by ISIS in Iraq. Nearly a year before, between October 2016 and July 2017, an estimated ten thousand ISIS fighters and their supporters had fought to their death both in and around Mosul. With the final liberation of Rawa four months later, 99 percent of the territory in all in Iraq and Syria that was ISIS-held in 2014 had been retaken by indigenous anti-ISIS forces, with the indispensable help of precision air strikes of ever-increasing intensity by the coalition against ISIS targets, half of them conducted in Iraq.[18]

After the SDF's liberation of Raqqa, and with the ISF's earlier retaking of Mosul, ISF units finally succeeded in driving ISIS's most diehard lingering remnants from the northern city of Hawija, the movement's last remaining stronghold in Iraq. In that battle as well, ISF fighting units were facilitated by U.S. SOF teams, JTACs, and on-call air strikes to help clear the way for the ISF's final assault. Prime Minister al-Abadi declared

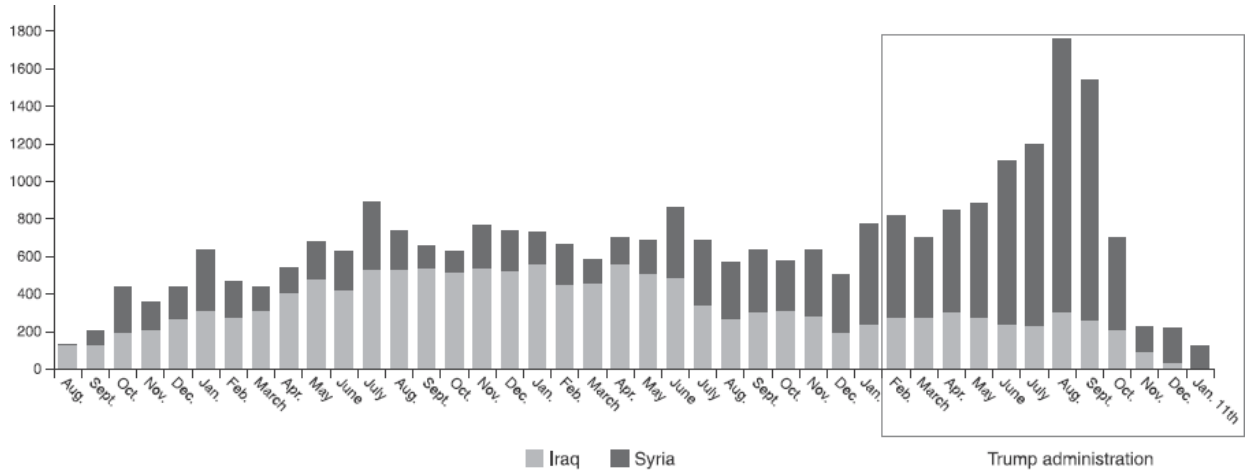
afterward that the repatriation of Hawija represented “a victory not just for Iraq, but for the whole world” now that the only ISIS militants thought to be still holding on in Iraq were dispersed throughout a string of isolated desert outposts in the middle Euphrates River valley and in the town of al-Qaim on the Syrian border.[19] With the dream of its caliphate in the region now dead, what was left of ISIS in Iraq reverted to isolated hit-and-run attacks aimed at undermining al-Abadi’s government in Baghdad and an increase in target-of-opportunity kidnappings and killings, primarily in the provinces of Kirkuk, Diyala, and Salahuddin.[20]

In its own clean-up effort against such residual targets of opportunity, CENTCOM’s push to track down and kill any remaining ISIS holdouts in Syria continued with targeted air attacks as deemed appropriate and promising, even as U.S.-supported SDF moves on the ground in the country were experiencing what a CJTF-OIR spokesman called an “operational pause” resulting from a late-arising “distraction” created by Turkey’s intervention in the Kurdish-held enclave of Afrin in eastern Syria that had been launched on January 20, 2018. (As noted earlier, Turkey had long considered the Kurdish People’s Protection Units, or YPG for short, to be a terrorist organization supporting a Kurdish insurgency inside Turkey, whereas the United States, for its part, viewed the YPG as distinctly separate from the Kurdish anti-Assad fighters it was supporting in Syria.[21]) Once that brief pause ended, coalition air attacks resumed against what Secretary Mattis called the “last enclaves” of ISIS holdouts as they were tracked down and geolocated in Syria’s middle Euphrates River valley, with an actual ramping up for a time to more than triple the number of air strikes than in the immediate weeks before as CJTF-OIR the following May 1 launched what it called Operation Roundup, with SDF ground units and supporting coalition airpower now working together in a full-court press to eliminate the last remaining pockets of ISIS resistance.[22] Most of that resistance had migrated to the small town of Hajin in eastern Syria about twenty miles from the Iraqi border, with as many as a thousand ISIS fighters hunkered down there and dug in for a last-stand holdout against advancing coalition forces.[23]

Later, in November 2018, coalition air strikes in Syria and Iraq reached their peak intensity that year as Operation Roundup continued, with a greater number of bombs (more than 1,400 in all) released against still-emerging ISIS targets that month than in any previous month that year. In all, however,

2018 ended with by far the lowest number of coalition munitions dropped during that year of any year since the war against ISIS began in early August 2014, with only some 6,500 weapons released in all against enemy targets that year, down from roughly 39,500 in 2017 and 30,700 the year before.[24] Figure 7.1 presents a trend line indicating the number of monthly air attacks conducted against ISIS targets in Iraq and Syria through December 2017, showing a dramatic increase in the number of strikes conducted against enemy aim points in Syria during the first year of the Trump administration.[25]

Regarding the improved state of political play in Iraq, much of the credit for having restored the ISF's momentum against ISIS in the end properly belongs to the many supporting Kurdish Peshmerga fighters who, as a *Wall Street Journal* editorial later observed, "became the primary reason that Islamic State was never able to consolidate its control over northern Iraq [following the collapse of the post-Saddam Iraqi army in 2012 and 2013]. Arguably, the Kurds, backed by U.S. airpower, saved Iraq by giving Prime Minister … al-Abadi time to reconstitute his nation's army into a fighting force capable of driving Islamic State out of Iraq's major cities, with the help of the Peshmerga."[26] For its part, the U.S.-led coalition that took more than three years to decimate ISIS finally swung its main weight of effort by early March 2018 from supporting the ISF in major combat operations to underwriting stability operations in formerly ISIS-held portions of the country as the coalition also continued to chase down the last remaining remnants of ISIS in Syria. For the most part in both Iraq and Syria, in the words of a CENTCOM representative, it was now mainly "pursuing and targeting foreign terrorist fighters attempting to escape through neighboring countries."[27]



In an apt and timely cautionary note, Lt. Gen. James Dubik, USA (Ret.), had remarked some months before that "the end of the [ISIS] physical caliphate [in Iraq and Syria] does not equal the end of the war or an end to their strategic goals" since the remnants of the organization were still actively dispatching injunctions to other extremists to revert to the movement's initial tactics of assassinations, bombs and ambushes.[28] Nevertheless, by April 30, 2018, the leadership of CJTF-OIR's Combined Joint Forces Land Component Command decided that the time had finally come to stand down its headquarters in Baghdad, which it did that day in a formal deactivation ceremony "signifying the end of major combat operations against ISIS in Iraq."[29]

As for the most likely political hereafter that will eventually evolve in both countries once the last remaining dregs of ISIS are finally killed or run out of Iraq and Syria, one concerned observer remarked with this question much in mind that the Trump administration's use of force in the region seemed thus far to be unfolding "independently of any broader strategic or political guidance," making almost predictably for a lack of clarity regarding longer-term U.S. goals that was allowing "tactical decisions … to dictate strategy."[30] Yet, whatever the future may hold regarding the coalition's hard-won military defeat of ISIS as a malign presence in the region, it will bear never losing sight of the cautionary note put forward by another concerned expert that "the loss of Islamic State's main cities has fooled many lay observers into the belief that it is dead. In fact, it remains dangerous both in its capabilities and by its example. The next ambitious terror group will study its methods and copy them."[31]

For his part, the chairman of the U.S. JCS, General Dunford, was likewise guarded in his assessment of the extent to which ISIS had been rendered truly down for the count, noting in a conversation with reporters in mid-October 2018 that "we've had other extremist groups at this same stage, only to see them adapt and find other ways to try and advance their agendas. So we know the job is not completed yet."[32] In a similar vein, a roughly concurrent analysis by the Institute for the Study of War in Washington, D.C., concluded that "on its current trajectory, ISIS could regain sufficient strength to mount a renewed insurgency that once again threatens to overmatch local security forces in both Iraq and Syria."[33] Finally, after all the uninformed guessing throughout the endgame of the prolonged fight against ISIS as to the status and possible whereabouts of Abu Bakr al-Baghdadi, the movement's elusive leader suddenly resurfaced in late summer of 2018 for the first time in eleven months, releasing a fifty-five-minute recorded speech to commemorate the Muslim holiday of Eid al-Adha in which he referred to recent events and called for continued lone-wolf bombings, car rammings, and gun and knife attacks in Western countries.[34] Although President Trump on one occasion went so far as to call ISIS "absolutely obliterated," the movement remained unquestionably alive and well in cyberspace, retaining its vast and effective online presence as a critical marketing and recruiting tool.[35] For all these reasons and more, as of early September 2018 some 2,200 U.S. military personnel remained on the ground in Syria in an advise-and-assist role to support indigenous anti-ISIS fighters in that still war-torn country.[36]

Persistent Uncertainties Regarding the Durability of the Win Achieved

In the midst of this continuing contrapuntal juxtaposition of guarded confidence that ISIS had finally been beaten as a would-be caliphate, on one hand, and concurrent questioning by many of the extent to which the jihadist movement had been truly destroyed once and for all, on the other, President Trump, out of the clear blue sky and with no prior warning whatsoever, summarily announced in a Twitter posting on December 19, 2018, that he would be withdrawing the entire U.S. military presence in Syria both forthwith and lock, stock, and barrel, adding categorically: "We have won against ISIS. Our boys, our young women, our men—they're all coming back, and they're coming back now."[37] This sudden and totally unexpected curve ball emanating from the White House, in which the president had

initially insisted on a complete U.S. withdrawal within thirty days, came almost immediately after a telephone conversation Trump had had with Turkey's president, Recep Tayyip Erdogan, during which Erdogan had complained about the American partnership with Kurdish forces in Syria, viewed by the Turkish leader as terrorists bent on destabilizing Turkey, and had assured Trump that Turkey would continue the fight against what was left of ISIS's presence in Syria.

To be sure, Trump had previously expressed to his closest advisers for more than a year his desire in principle to extricate the American military presence from Syria as soon as reasonably possible. Nevertheless, the abruptness of this announced decision triggered an instant groundswell of chaos and protest throughout the Washington policy community, even from such staunch Republican allies of the president as Senator Lindsey Graham of South Carolina, who remarked that he had been "blindsided" by the announcement and who called it "a huge Obama-like mistake," adding that the surprise decision could even be viewed in the wrong quarters as "a boost to ISIS's desire to come back."[38] The president's move clearly contradicted a proclamation issued just two months before by his latest national security adviser, John Bolton, that the United States would not leave Syria "as long as Iranian troops are outside Iranian borders." Even just four days before the president's surprise announcement, the leadership of CJTF-OIR had released a statement declaring that "the coalition mission in northeast Syria remains unchanged [and is still] committed to working with our partners on the ground to ensure an enduring defeat of ISIS."[39] And just three days before the announcement, U.S. partner forces in Syria had finally liberated the last urban ISIS stronghold in the town of Hajin after months of sustained American and coalition air and artillery preparation.[40]

Repercussions throughout the administration in response to the surprise announcement were not long in coming. The very next day, Secretary of Defense Mattis abruptly resigned in terminal exasperation and protest against the decision after having made an unsuccessful last-ditch, closed-door attempt the day before to persuade Trump to reverse his decision. In a publicly released letter to the president, Mattis declared that he believed "it is right for me to step down from my position because you have the right to have a Secretary of Defense whose views are better aligned with yours on these and other subjects."[41] The day after, likewise in a well-publicized

protest against the decision, the long-serving special presidential envoy for the global coalition to counter ISIL, Brett McGurk, also tendered his resignation, later noting that he had decided to step down because he believed his assignment had become useless, stating: “I basically concluded I was unable to do it.”[42] He further remarked in an op-ed essay the following month that the president’s decision had been made “without deliberation, consultation with allies or Congress, assessment of risk, or appreciation of facts.”[43]

As if to help explain his dismay in retrospect at the president’s surprise decision, less than two weeks before it was announced, McGurk had told reporters on December 11 that “the military mission [in Syria] is the enduring defeat of ISIS. We have obviously learned a lot of lessons in the past, so we know that once the physical space is defeated, we can’t just pack up and leave. So we’re prepared to make sure that we do all we can to ensure this is enduring.”[44] McGurk further disclosed that in early December 2018 he and Secretary Mattis had met with all of the military leaders in the anti-ISIS coalition and that their “unanimous view [was] that ISIS is not defeated, this mission is not over.” He added during a subsequent interview on CNN that he did “not think there would be a single expert that would walk in the Oval Office and tell the president that this is over.” That view was forcefully echoed by McGurk’s predecessor as special presidential envoy to the coalition against ISIS in 2014 and 2015, Gen. John Allen, USMC (Ret.), now president of the Brookings Institution, who likewise wrote emphatically in early January 2019 that “the Islamic State is not defeated. It remains a local, regional and global threat [and] the departure of U.S. forces leaves the door wide open for the group’s resurgence…. The Islamic State [will not be] defeated until the idea of the caliphate has been defeated.”[45]

One outspoken critic of the president’s decision rightly remarked the day after its announcement that it promised to be “riskier than it looks. It ends a low-cost, high-impact mission and creates a vacuum that will be filled by one of a series of bad actors—Iran, Russia, Turkey, Islamist extremists, the Syrian regime—take your pick, they’re all dangerous for U.S. interests in the Middle East.”[46] The same day, a *Wall Street Journal* editorial, while duly crediting the president for his pivotal role in “accelerating the coalition campaign against ISIS and erasing its claim to be a territorial caliphate,” spotlighted an on-target observation in a Pentagon inspector general’s report

just the month before that ISIS had nonetheless “continued to move underground and solidify as an insurgency in Iraq and Syria” and that, “despite the loss of all of its territory,” it had “kept some of its bureaucratic structures in place and continued to raise funds,” in the face of which the president’s abrupt troop-withdrawal decision had entailed “sending an Obama-like signal of retreat” because it threatened to squander almost instantly the gains of an otherwise hard-fought and ultimately successful four-year campaign.[47]

In early 2019 the Department of Defense issued its latest quarterly report to Congress by its lead inspector general tasked with providing a periodic update on what remained of the waning war against ISIS. The report had already been largely completed before President Trump’s decision the previous December 19 to withdraw all remaining U.S. troops from Syria, but its formal release had to be delayed until the following February in order to accommodate the late-breaking fact of that decision and to try as well as possible on such short notice to address its manifold implications. Since the president’s announcement occurred after the inspector general’s office had already submitted its quarterly request for information to all concerned departmental organizations deemed necessary to substantiate its report, the office in early January 2019 submitted a supplemental question to the same entities asking how the declared American goals of “ensuring the enduring defeat of ISIS, the removal of Iranian militias and proxies, and a resolution to the Syrian civil war” might be achieved after the withdrawal of the last remaining U.S. forces from Syria. To no one’s surprise, U.S. Central Command echoed the responses of most other organizations so queried by candidly declaring that it was “unable to provide definitive responses” to that question. CENTCOM did, however, voice its strong conviction that ISIS would most definitely “leverage the [withdrawal] as a ‘victory’ in its media.” It further cautioned that “absent sustained [opposing U.S. and coalition] pressure, ISIS could likely resurge in Syria within six to twelve months and regain limited territory in the [middle Euphrates River valley].”[48]

One more upbeat aspect of the otherwise roundly disruptive troop-withdrawal decision by President Trump was that his administration had not yet decided whether U.S. forces would continue conducting as-needed air strikes against the remaining remnants of ISIS in Syria after the American presence of more than two thousand troops on the ground there finally

departs. On that nontrivial score, with respect to the continuing role of U.S. ground units in working with indigenous friendly forces to identify and designate ISIS targets for attacks from the air, Lieutenant General Deptula helpfully noted that "that's a very, very well-oiled process, so that's highly desirable." He added that "we can continue [to provide that function] with small elements of covert forces," or even work exclusively with indigenous local troops in the absence of any American military personnel actually on the ground in Syria.[49]

In the meantime, as this rampant turmoil was rapidly reverberating throughout the American media and in assorted administration pronouncements, CENTCOM's air effort against what remained of ISIS's strongholds in Syria's middle Euphrates River valley continued unabated, with coordinated air attacks occurring between December 16 and 29 against ISIS financial holdings, logistics facilities, and staging areas, killing along the way "several hundred" ISIS fighters who had been identified and geolocated on the battlefield.[50] During that brief span of time, U.S. and coalition forces conducted 469 air and artillery strikes against a variety of confirmed ISIS targets in Syria, with a CJTF-OIR spokesman declaring that U.S. forces "will continue to target ISIS" with no currently anticipated cutoff date for such future strikes.[51] Not long thereafter, Iraqi F-16s also struck a targeted house in the town of Souseh that Iraq's Joint Operations Command had said was being used as a meeting place for surviving ISIS leaders. That strike took place the day after the Syrian government formally authorized Iraq to attack the jihadists.[52] Just as notably, less than two weeks after President Trump's sudden troop-withdrawal announcement, it came to light that the president had ordered a slowdown to his planned withdrawal, with Senator Graham now telling reporters after a lunch with the president on December 30, "I think we're in a pause situation. I think we're slowing things down in a smart way." Graham added that he recognized Trump was well aware of the difficulty his decision had created for the Kurdish combatants who made up the backbone of the SDF that had conducted the bulk of hard fighting against ISIS.[53]

In yet another signal development, just a week after his surprise announcement that he would soon be pulling the U.S. military presence out of Syria altogether, President Trump made it clear that his administration had no plans to withdraw anytime soon a substantial number of the more than

five thousand American troops who were also still deployed in Iraq. During his first-ever trip to that country in late December 2018, he made a special point to stress during a visit to al-Asad air base in western Iraq that "we could use this as the base if we wanted to do something in Syria." That statement tacitly dramatized the president's continued awareness that many former ISIS combatants were thought to remain still at large throughout the region, having quietly blended back into the civilian population, plus the fact that the group's leader, al-Baghdadi, had still not been captured and was presumed to be still alive and a persistent threat to be accounted for.[54]

Several days later Trump hinted for the first time that he might well revise his initial determination to withdraw all U.S. troops from Syria in light of the rampant groundswell of pushback that his surprise announcement on December 19 had instantly created throughout the national security establishment. On that score, Senator Graham declared that "the president's trip to Iraq was eye-opening. The commanders there told him that ISIS was in a world of hurt, but not completely destroyed."[55] In that regard, it was soon reported that, after having met in Baghdad with the most recent CJTF-OIR commander, Lt. Gen. Paul LaCamera, USA, Trump had agreed to increase the time allotted for the planned troop drawdown from thirty days to four months, a dispensation that would allow enough time for an orderly departure and for appropriate decisions to be made regarding where else in the region to transfer the substantial amount of U.S. military equipment still fielded in Syria and how much might be left behind for America's Kurdish partners, and to disable the rest so it could not be seized and exploited by Assad's government or by Syria's Russian and Iranian allies.[56] On that count, Senator Graham remarked that "the president is slowing down and is reevaluating his policies in light of … three objectives—don't let Iran get the oil fields, don't let the Turks slaughter the Kurds, and don't let ISIS come back." By the same token, Secretary of State Mike Pompeo confirmed that there was no fixed timetable for the pending U.S. withdrawal, and Trump himself quickly insisted that he had "never said we were doing it that quickly."[57] For his part, the president also for the first time qualified his initial claim that the United States and the coalition had "defeated ISIS in Syria" by tweeting on December 31 that the jihadist organization was now just "mostly gone."[58]

Still further walking back his initial insistence on an imminent total withdrawal of the American troop presence from Syria, the president qualified that statement as well in a Twitter posting during the first week of 2019, stating that "we will be leaving at a proper pace while, at the same time, continuing to fight ISIS and doing all else that is prudent and necessary." That more tempered declaration came at a time when CJTF-OIR was still in the midst of conducting hundreds of weekly air attacks against remaining ISIS fighting positions and as CENTCOM was continuing to await clear decisions from the White House regarding whether and for how long the nation would continue its aerial attack operations in Syria and how and where the administration was prepared to position U.S. SOF teams in the region for targeted forays against any remaining ISIS leaders.[59]

In yet another tacit sign that President Trump had finally been persuaded to appreciate the downside risks and potential costs of his abrupt troop-withdrawal announcement the month before, his national security adviser, John Bolton—presumably with Oval Office backing—told reporters in Jerusalem on January 6, 2019, that the president's order to withdraw U.S. ground troops from Syria envisaged a "cause-and-effect mission" that called for certain prior assurances from various actors in the region before it would be consummated, and most notably that the administration would not remove any U.S. forces from northern Syria until Turkey first offered a firm commitment not to target CJTF-OIR's vital Kurdish allies in that country. For his part, Trump himself reaffirmed his intent to withdraw the American ground presence from Syria in due course but qualified that statement by adding that "we won't be finally pulled out until [ISIS] is gone."[60]

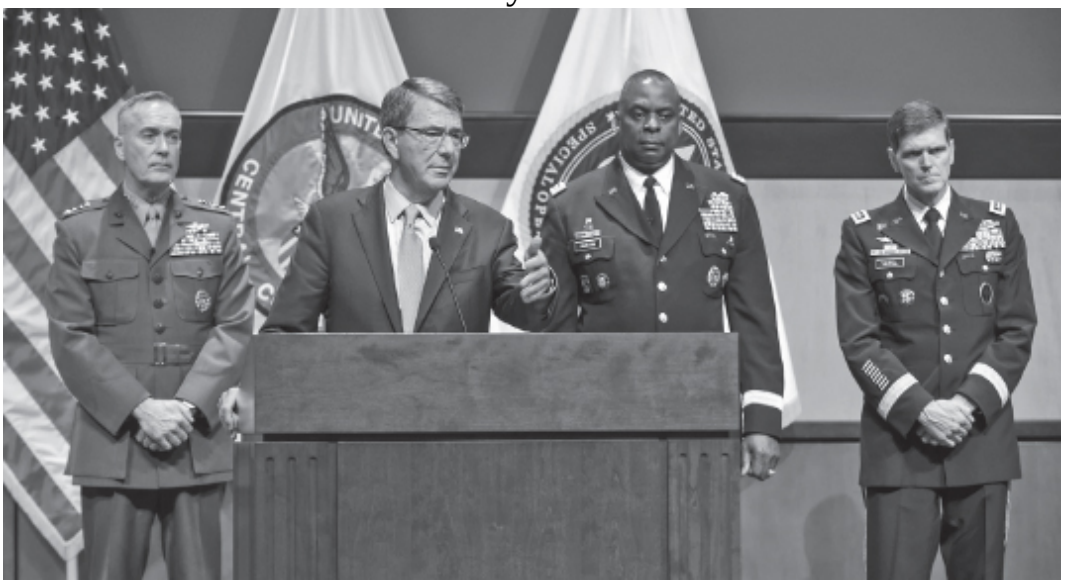
In yet another encouraging report toward the end of January 2019, the last remaining remnants of ISIS's diehard holdouts in Syria were said to be fighting near a bend in the Euphrates River valley to hold onto the "last speck" of the more than 100,000 square miles of territory the would-be caliphate once controlled in that country and in Iraq, with jihadist militants, mostly foreign combatants, now surrendering to SDF forces by the dozens.[61] Acting U.S. Secretary of Defense Patrick Shanahan said at that point that ISIS was now just "weeks" away from being fully exterminated as a threatening presence in Syria, with the American military footprint on the ground there still only in the "early stages" of a "deliberate, coordinated, disciplined withdrawal" and with "99.5 percent-plus of the ISIS-controlled

territory" having been returned to the Syrians now that ISIS's residual territorial holding in the country was down to just six or so square kilometers of terrain, according to an SDF spokesman.[62] The final remaining pockets of ISIS resistance, however, were said to be firmly dug in and still fighting hard as the intensity of coalition air strikes had steadily risen in the aftermath of the president's announcement of his troop-withdrawal decision.[63] Within just the two-week period that

Abu Bakr al-Baghdadi, the self-avowed leader of ISIS, first announced the creation of his caliphate from the Grand Mosque of al-Nuri in Iraq's second-largest city of Mosul on June 29, 2014. After more than five ensuing years of having overseen ISIS-inflicted mayhem in both Iraq and Syria, he was finally hunted down by a U.S. SOF team during the early hours of October 27, 2019, and took his own life after being hopelessly cornered. *Islamic State*

U.S. Navy F/A-18 Super Hornet strike fighters like the one poised here for launch on the carrier's flight deck were the first American aircraft to see combat action in the war against ISIS when a number of them operating from USS *George H. W. Bush* (CVN 77) struck at advancing jihadists with 500-pound precision-guided bombs on August 8, 2014, as those forces were threatening to take Iraqi Kurdistan's capital city of Erbil. *U.S. Navy photo by PO3 Anthony Flynn*

As ill-disciplined Iraqi Security Forces collapsed under the weight of the ISIS onslaught after the withdrawal of all remaining U.S. occupation troops at the end of 2011, ISIS militants captured nine Abrams M1 battle tanks like the one shown here being driven by jihadists that had been supplied to the ISF by the United States. One was destroyed during the war by a precision B-1 strike. The others were eventually returned to the ISF. *Islamic State*



Secretary of Defense Ashton Carter—speaking from the podium and backstopped by (*left to right*) JCS chairman Gen. Joseph Dunford, USMC, and the commanders of U.S. Central Command and U.S. Special Operations

Command, Gen. Lloyd Austin III, USA, and Gen. Joseph Votel, USA—was the first senior Obama administration official to appreciate the need for a tougher approach to combating ISIS. *U.S. Central Command photo by SFC Clydell Kinchen, USA*

The U.S. Air Force's two-seat F-15E multirole fighter, shown here on a combat mission over Iraq against ISIS, was the most hard-worked kinetic performer throughout the four-year campaign, having delivered more than 15,000 PGMs in all against enemy targets by May 2017. With its onboard electro-optical and infrared targeting pod, the Strike Eagle offered coalition commanders an around-the-clock and all-weather bombing capability. *U. S. Air Force photo by SSgt Daniel Snider*

Smoke rises after a U.S. air strike on October 22, 2014, against an ISIS target in the Kurdish town of Kobani on the Syrian-Turkish border, ninety miles northwest of Raqqa, that the jihadist movement had captured just a month before in mid-September shortly after the onset of Operation Inherent Resolve. The town was later freed by Syrian anti-ISIS combatants, with the help of sustained U.S. air support, following a 112-day siege. *Voice of America video by Scott Bobb*

Initially fielded to deliver nuclear weapons against the Soviet Union in case of a major war between the two superpowers, the U.S. Air Force's B-1, shown here with a Qatari Mirage 2000 fighter flying off its left wing, was

subsequently reconfigured to carry solely conventional munitions and was a key player in taking down the ISIS caliphate. It delivered some nine thousand PGMs against enemy targets before being relieved by B-52s. *U.S. Air Force photo by SSgt Clayton Cupit*

A U.S. Air Force B-52 heavy bomber, its drag chute still trailing behind after landing, taxis in following a flight from Barksdale AFB, Louisiana, to al-Udeid Air Base in Qatar on April 9, 2016. Its deployment followed a push by the commander of U.S. Global Strike Command to get B-52s into the war both to take some pressure off his hard-worked B-1s and to help spread OIR combat experience across the bomber aircrew force. *U.S. Air Force photo by TSgt Nathan Lipscomb*

This Russian Air Force Su-24M tactical bomber, its pilot and navigator seated in a side-by-side configuration, lands following a mission against anti-Assad rebels in the ongoing Syrian civil war. One of these jets, first fielded as Moscow's reply to the U.S. Air Force's since-retired F-111 variable-geometry strike fighter, was downed by a Turkish F-16 on November 24, 2015, after its pilot inadvertently ventured into Turkish airspace. *Ministry of Defense of the Russian Federation*

A variant of the single-seat Su-27 air combat fighter first fielded in the late 1980s as a Soviet counterpart to the U.S. Air Force's F-15C, this two-place

Russian Su-34 ground-attack aircraft, its pilot and navigator also seated in a side-by-side configuration, drops a satellite-aided KAB-500S-E 400-pound bomb, roughly comparable to the American JDAM, on a Syrian rebel target in the RuAF's first-ever combat use of precision munitions. *Ministry of Defense of the Russian Federation*

An F-22 Raptor stealth fighter flown by the U.S. Air Force's 95th Expeditionary Fighter Squadron forward-deployed to al-Dhafra Air Base in the UAE pulls away from a tanker in March 2018 after having completed an in-flight refueling. In its combat debut at long last, after having achieved initial operational status in 2005, the aircraft offered AFCENT a major asymmetric edge in the face of sophisticated Russian and Syrian air defenses. *U.S. Air Force photo by SSgt Colton Elliott*

Sailors on board the aircraft carrier USS *Nimitz* (CVN 68), operating on station in the Arabian Gulf in support of CENTCOM's war against ISIS, move a pallet of 2,000-pound satellite-aided JDAM precision-guided bombs and AIM-120 AMRAAM air-to-air missiles to be fitted on F/A-18 Super Hornet strike fighters like the singleseat E model shown in the background, secured on the flight deck with its wings folded for storage. *U.S. Navy photo by PO3 Ian Kinkead*

The U.S. Air Force's MQ-9 Reaper RPA, a developmental improvement over the earlier first-generation MQ-1 Predator, is capable of remaining airborne over an area of interest for more than fourteen hours while carrying its standard sensor package and a full complement of munitions, shown here armed with its normal load of two GBU-12 Paveway II laser-guided bombs and four AGM-114 Hellfire missiles. It was a major ISR asset in the war against ISIS. *U.S. Air Force photo by Lt Col Leslie Pratt*

The Reaper’s progenitor, the MQ-1 Predator, first fielded in 1995 and finally retired from line service in 2018, was launched locally in the war zone but then remotely piloted from a ground control station like the one shown here nearly a half a globe away at Creech AFB, Nevada. During the first U.S. air strikes against ISIS on August 8, 2014, a Predator aided in the defense of Erbil by firing an AGM-114 to take out an enemy mortar position. *U.S. Air Force photo, unattributed*

Another major player in the air war against ISIS, the U.S. Air Force's A-10 ground-attack aircraft was second only to the F-15E as a combat workhorse in Operation Inherent Resolve, having delivered some 14,000 munitions in all against enemy targets by mid-2017. The aircraft's GAU-8 30-mm cannon capable of firing nearly 4,000 depleted-uranium rounds a minute is so accurate that it qualifies as a precision-strike weapon. *U.S. Air Force photo by SSgt Michael Battles*

Lt. Col. Ben Rudolphi, USAF, an A-10 pilot and squadron commander, conducts a preflight inspection of a laser-guided bomb mounted on his aircraft's right inboard weapons station. During the protracted battle to free Mosul from ISIS control in 2016 and 2017, some A-10s, in an all-time combat first, employed laser-guided 2.75-inch rockets offering a target attack capability with a much-lessened risk of causing inadvertent collateral damage. *U.S. Air Force photo by SrA Ramon A. Adelan*

With its long-range rotating surveillance radar mounted atop the aircraft and able to provide a comprehensive real-time picture of aerial activity out to a distance of more than two hundred miles in all directions, the U.S. Air Force's E-3C AWACS was a near-constant airborne presence throughout Operation Inherent Resolve, given the need to monitor and manage the always congested and often contested flow of military air traffic over Syria. *U.S. Air Force photo by SSgt Michael Battles*

The main operations floor of AFCENT's CAOC at al-Udeid Air Base, featuring multiple large-screen displays and more than one hundred high-speed T-1 Internet lines, was the main center of activity for commanding and controlling coalition air operations over Iraq and Syria throughout the war against ISIS. The CFACC's office and battle cab can be seen at the high right overlooking the various staff positions and displays arrayed below. *U. S. Air Force photo by TSgt Joshua Strang*

CENTCOM's second CFACC for Operation Inherent Resolve, Lt. Gen. Charles Q. Brown Jr., USAF, oversaw all air operations against ISIS for a year starting in June 2015, during which time the use of coalition airpower under his purview finally assumed a more effective direction and footing. Here he briefs CBS News correspondent David Martin during taping for a *60 Minutes* segment called "Inside the Air War" that ran in late 2015. *U.S. Air Force photo courtesy of Gen Charles Q. Brown Jr*.

Lieutenant General Brown (*fourth from left*) stands here with the five-man crew of a B-52H before launching from al-Udeid on an XCAS (on-call dynamic strike) mission on which he flew, its radio call sign Grim 11, that was targeted in the vicinity of Manbij, Syria, on July 3, 2016, in support of anti-ISIS Syrian ground forces. The aircraft is armed with six satellite-aided 2,000-pound JDAMs, with three shown here attached to its left underwing pylon. *U.S. Air Force photo courtesy of Gen Charles Q. Brown Jr*.

U.S. Marine Corps AV-8B Harrier strike fighters joined the fight against ISIS from the *Wasp*-class amphibious ship USS *Boxer* beginning in mid-

June 2016 while operating from the Arabian Sea. The aircraft, designed to perform short takeoffs and vertical landings and to provide on-call close air support for friendly ground troops, were assigned to the aviation combat element of the 13th Marine Expeditionary Ready Group. *U.S. Marine Corps photo by Cpl Nathan Reyes*

This sanitized image taken by an overhead electro-optical and infrared sensor platform, its associated operational information blanked out, shows the effects in real time of a precision strike by coalition aircraft on a trio of approved ISIS aim points conducted more than a year into Operation Inherent Resolve, when such preplanned attacks against truly lucrative targets had finally become approved as routine campaign events. *U.S. Air Force photo from the CAOC's Coalition Intelligence Fusion Center*

RAF air commodore Johnny Stringer served as the air contingent commander for the UK's contribution to the war against ISIS, code-named Operation Shader, from October 2016 through October 2017. He is shown here on the right during his outgoing change-of-command ceremony at al-Udeid on October 22, 2017. His RAAF counterpart oversaw similar air employment in Australia's contribution, code-named Operation Okra. *U.S. Air National Guard photo by SSgt Patrick Evenson*

Lt. Gen. Jeffrey Harrigian, USAF, CENTCOM's third successive CFACC for Operation Inherent Resolve, oversaw the air contribution to the coalition's final defeat of the would-be ISIS caliphate while serving in the CAOC from July 2016 to August 2018. Here he conducts an in-flight refueling of an F-22 by a U.S. Air Force KC-10 tanker over the Arabian Sea while flying on a two-ship combat mission in support of ongoing air strikes into Syria. *U.S. Air Force photo by SSgt Marjorie L. Bowlden*

Lieutenant General Harrigian (left) accepts the unit guidon at a change-of-command ceremony for the outgoing commander of the U.S. Air Force's 380th Air Expeditionary Wing, Brig. Gen. Charles Corcoran (*right*). Brigidier General Corcoran, AFCENT's chief of staff at the time of the war's start, later led F-22 air dominance missions flown by his wing over Syria for a year in the face of a constant presence of Russian combat aircraft in adjacent airspace. *U.S. Air Force photo by SrA Preston Webb*

ended on February 9, 2019, CENTCOM reported conducting 179 air attacks against ISIS positions in southeastern Syria.[64] Of that continued ISIS presence, General Votel estimated in testimony before the Senate Armed Services Committee that as many as 1,500 ISIS fighters may have remained holed up in that small patch of remote terrain. He also admitted frankly that he had not been consulted beforehand regarding the president's surprise announcement when pressed by the senators on that still-delicate topic.[65]

One potential fly in the ointment of the campaign's impending drawdown manifested itself in Iraq after President Trump remarked at al-Asad air base that the United States could continue to use that country as a springboard from which to launch raids against surviving ISIS elements, with pro-Iranian factions in Iraq's parliament vocally challenging the fragile Iraqi government by insisting that all remaining U.S. troops be withdrawn from Iraq as a matter of principle.[66] In the face of that mounting challenge, Iraq's new president, Barham Salih, said candidly during a telephone interview with a Washington journalist: "I appreciate what the U.S. has done to help Iraq…. But this success in Iraq is precarious and should not be unduly burdened. It could easily unravel."[67] No doubt finally recognizing, at least tacitly, the initial turmoil and ensuing difficulties that his sudden troop-withdrawal announcement and his less judicious subsequent remarks had created throughout the Washington policy community and also among the nation's many friends in the Middle East and elsewhere, President Trump finally reassured those important audiences that the United States would continue an unrelenting pursuit of ISIS fighters "for many years to come."[68]

In an ensuing remark that may have been disproportionately effective in capturing and concentrating President Trump's attention, Gen. Mazloum Abdi, the commander of the more than 50,000 Kurdish and anti-Assad Arab forces in Syria who were still conducting the fight against ISIS in the town of Baghouz, implored the United States to reconsider its decision to withdraw its ground presence from Syria in toto and instead to leave at least a small residual troop contingent in the country to maintain a visible presence that would help disincline the SDF from seeking an alternate source of protection either from Assad's hated regime or from Moscow. Concurrently, U.S. military personnel were said to have been refining a plan to maintain just such a presence in Syria, should the White House eventually be convinced to undergo a change of mind.[69]

Furthermore, as if to suggest that the persistent uncertainty regarding ISIS's residual staying power in Syria following the president's surprise announcement the preceding December was about to come at least to an interim end, the White House declared in late February 2019 that President Trump had decided to leave around 200 American troops in Syria for the indefinite future, thus signaling a clear partial retreat from his initial announcement the previous December that he would withdraw all 2,200 U.S.

forces from Syria after what he declared at the time had been an unqualified coalition win over ISIS. That remaining troop presence, according to a senior administration official, would be based in northeastern Syria and at a small outpost in the town of al-Tanf near Syria's southeastern border with Iraq and Jordan, with the assigned mission of providing intelligence and surveillance assistance to the SDF, along with needed information for directing continued coalition air strikes against ISIS targets.[70] That announcement was later praised by Senator Graham as one that ensured that "ISIS does not return and that Iran does not fill the vacuum that would have been left if we completely withdrew." The senator pointedly added: "With this decision, President Trump has decided to follow sound military advice. This decision will ensure that we will not repeat the mistakes of Iraq in Syria. For a small fraction of the forces we have had in Syria [up to then], we can accomplish our national security objectives."[71]

At that point it remained unclear whether that guarded counsel of optimism would continue to hold for the long haul. At least for the moment, however, as *The Wall Street Journal* approvingly remarked regarding that limited but important about-face, it showed that the president could be "persuaded to change his mind."[72] It also laid some essential preliminary groundwork for supporting upward of possibly a thousand additional troops from other countries also eventually remaining in Syria as a continuing part of the thus far successful anti-ISIS coalition. The coalition's Operation Roundup against the last remaining ISIS holdouts in Syria was put on temporary hold in early March 2019 when thousands of civilians were trapped in a portion of the town of Baghouz that was less than a square mile in size.[73] But President Trump commented to a group of lawmakers in both chambers of Congress the same week that he was "100-percent" on board with keeping "a small American stabilizing force in Syria," as the lawmakers had urged him to do in a letter the week before.[74]

For his part, CENTCOM's outgoing commander, General Votel, called the coalition's final crushing of the ISIS caliphate "a monumental military accomplishment." He went on to caution, however, that "the fight against ISIS and violent extremism is far from over" and that the United States "will need to maintain a vigilant offensive against this now widely-dispersed and disaggregated organization that includes leaders, fighters, facilitators, and, of course, their toxic ideology."[75] As if to bear out that cautionary note, a group

of last-stand ISIS holdouts launched suicide attacks against SDF forces on March 13, 2019, as SDF leaders proclaimed that the movement was in its "final moments," hanging on to what one press account reporting on that last act of desperation called "a riverside sliver" of remaining ISIS-held land in the village of Baghouz.[76] Earlier the preceding January a single ISIS suicide bomber targeted a popular restaurant in the town of Manbij, killing four Americans, and U.S. officials were warning that the jihadist movement still had between 15,000 and 20,000 armed fighters around the world, including some who were hunkered down in sleeper cells in both Iraq and Syria.[77]

Finally, however, on March 23, 2019, American-backed SDF fighters drove the last remaining ISIS holdouts out of Baghouz, forcing the jihadist movement to morph at long last from what one press account rightly called "a governing authority back into a guerrilla insurgency."[78] As that account went on to note, at the height of the CENTCOM-led campaign against ISIS, around 10,000 Americans, including 8,000 uniformed personnel and another 1,600 or more civilian contractors, were involved in combating the movement in both Iraq and Syria in a protracted slugfest that left "tens of thousands" of Iraqi and anti-ISIS Syrian troops killed in combat. That same day acting U.S. defense secretary Shanahan formally announced that the SDF's freeing of 100 percent of the former ISIS-held territory in both Iraq and Syria "confirms that … the terror group no longer controls populated areas."[79]

With that decisive end formally declared to CENTCOM's more than four-year-long effort against ISIS, the most important related challenge facing the United States and its allies both in the immediate region and beyond became maintaining enough sustained pressure on the still-vital remnants of the jihadist movement to prevent it from ever reconstituting itself as an organized fighting force. Within still highly unstable and conflicted Syria itself, however, that challenge became, in all likelihood, the only one of several once-desirable regional security goals that remains realistically feasible for the United States. For as former presidential envoy Brett McGurk later remarked, "the strategy that Trump dismantled offered the United States its only real chance to achieve a number of interwoven goals in Syria: preventing an ISIS resurgence, checking the ambitions of Iran and Turkey, and negotiating a favorable postwar settlement with Russia…. The U.S. deployment in Syria made it possible for the United States to stand

toe-to-toe with Russia, contain Iran, restrain Turkey, hold the Arab states in line, and, most important, prevent a resurgence of ISIS. Trump's initial order to fully withdraw U.S. troops forfeited all those advantages."[80]

A Signal Step toward Closure with the Takedown of al-Baghdadi

No sooner had a new normal finally settled into place in Syria, with what remained of the former ISIS caliphate having been beaten back decisively into a muted but still-simmering insurgency, when the world's attention was captured anew by yet another abrupt about-face by President Trump as he announced on October 7, 2019, a *second* decision to pull out forthwith virtually the entire remaining contingent of nearly a thousand U.S. troops in the northern part of the country. Trump announced that latest impulsive move after having spoken once again with Turkey's president, Erdogan, this time with the thought of removing American troops from harm's way before the onset of an imminent Turkish ground push into northern Syria that Erdogan just had ordered, with the goal of driving out those Kurdish militia fighters immediately opposite the Turkish border that Erdogan had adjudged a continuing terrorist threat to his country.[81] The immediate effect of that precipitous move on Trump's part was to send a clear message of American betrayal of the loyal Kurdish fighters composing the majority of the joint Kurdish-Arab SDF who had sustained more than 11,000 of their ranks killed and another 24,000 wounded during their long and hard-fought effort to help defeat ISIS. That latest impromptu decision by Trump, made once again with no prior consultation with any U.S. government officials, triggered a spontaneous outburst of rebuke from Republicans, including from the president's most loyal allies in Congress.

Inexorably, however, as Erdogan had clearly forewarned, Turkish troops two days later launched their previously announced move into Syria, with the twin avowed goals of driving out those Kurdish fighters he regarded as terrorists and creating a safe zone in northern Syria within which he might relocate millions of Syrian refugees who had previously fled into Turkey to escape the ravages of the Syrian civil war and the ensuing onslaught of ISIS. In response to that totally anticipated Turkish incursion in force, President Trump declared that the United States "does not endorse this attack and has made it clear to Turkey that this operation is a bad idea." He then added that he would definitely apply his threatened economic sanctions against Turkey in retaliation and would take punitive actions "much tougher than

sanctions," should Erdogan fail to conduct his incursion humanely, such as by pursuing ethnic cleansing or permitting indiscriminate air attacks and artillery fire against innocent Kurdish civilians.[82] For their part, as was formally promised by Foreign Minister Mevlut Cavusoglu, the Turks swore not to press any deeper than around nineteen miles into Syrian territory, the distance deemed necessary to prevent Kurdish fighters from firing harassing rockets into Turkey.[83] Despite that official promise from Ankara, however, the Trump administration proceeded apace with its avowed threat to begin levying what Treasury Secretary Steven Mnuchin called "very powerful" economic sanctions against Turkey as well as halting further arms sales to Ankara in response to Erdogan's continued insistence on acquiring an inventory of latest-generation Russian S-400 SAMs.[84] In a strong show of bipartisan support for the president's stance against Erdogan, senators Lindsey Graham (R-S.C.) and Chris Van Hollen (D-Md.) submitted legislation that would impose additional sanctions on individuals at the highest levels of the Turkish government.[85] At the same time, however, the House of Representatives voted 354 to 60 in favor of a nonbinding resolution expressing opposition to Trump's betrayal of the Kurds, a move that drew support from two-thirds of the House's Republicans.[86]

As this emerging new reality continued to play itself out in northern Syria, Vice President Mike Pence met with Erdogan in Ankara to negotiate at least an interim cessation of the Turkish incursion. After nearly five hours of often tense back-and-forth, the two leaders reached an accord in which the United States acceded to Turkey's military presence in northern Syria in return for the promise of a five-day cease-fire that would at least temporarily end Turkey's incursion into Kurdish-held territory. That agreement promptly defused Trump's earlier threat to impose retaliatory sanctions against Turkey.[87] Immediately after reaching that agreed transitory halt to Turkish operations in northern Syria, the U.S. military scrambled to arrive at a new posture that would allow American troops to continue engaging the remnants of ISIS from "over the horizon," as one Pentagon official expressed it, implying combat measures launched from Iraq.[88]

Not long thereafter, Trump again appeared to have become beset by second thoughts regarding the wisdom of his latest rash move regarding the American military presence in Syria, now suggesting that he might keep a residual contingent of perhaps two hundred U.S. troops in the northeastern

portion of the country, well removed from the recently negotiated cease-fire zone, in order to help the Kurds retain control of the rich oil fields in Syria's Deir al-Zour region and to prevent any surviving ISIS jihadists from seeking to wrest away that control.[89] For his part, Secretary of Defense Mark Esper reported that the CAOC was maintaining a constant presence of strike fighters orbiting above the U.S. forces still deployed in Syria and was conducting overhead surveillance by RPAs to monitor the cease-fire "as best we can."[90] Not long thereafter, as if caught once again by a dawning realization that his latest hurried pullout decision was easier said than done, Trump allowed that he was now considering leaving as many as five hundred U.S. troops in place in northeastern Syria and sending in some Bradley armored fighting vehicles to help protect the oil fields, avowing in a Twitter burst that "we will *never* let a reconstituted ISIS have those fields!"[91]

Then, amid all this renewed self-generated pandemonium in U. S. dealings with Syria and the Kurds, President Trump exultantly announced to a group of reporters summoned to the White House on October 27 that, during the early morning hours the night before, a team of close to one hundred crack operators from U.S. Joint Special Operations Command had penetrated into northwestern Syria for some seventy minutes on board eight MH-47 Chinook and MH-60 Blackhawk helicopters to a site in Syria's Idlib Province near the town of Barisha just four miles south of the Turkish border. Upon arriving at the identified compound, the trained commandos finally cornered ISIS's long-elusive leader al-Baghdadi in a well-practiced raid, with a CAP of U.S. strike fighters and RPAs orbiting directly above the operation and following it in real time as it unfolded. As was later recalled by Trump and by other officials who had monitored the raid from the White House as it was occurring, the attacking SOF team, after having surrounded al-Baghdadi's compound, called out in Arabic for the ISIS leader to come out and surrender. In prompt response, several adults and eleven children exited the building. When al-Baghdadi himself failed to emerge, the SOF team blew holes in the side of the building with shaped charges to avoid what was presumed to have been a booby-trapped main entrance. They then entered the compound in quest of their quarry, killing along the way five ISIS fighters within the building and several others who had already left it.

Once inside the building, with the help of an experienced combat dog in the lead who had accompanied the team on the mission, the operators chased

al-Baghdadi in hot pursuit into a dead-end tunnel beneath the compound, where the ISIS potentate, now with no remaining options, detonated a suicide vest laden with explosives that he had been wearing, instantly killing himself and two of his children, both under the age of twelve, whom he had dragged along with him as human shields. After having confirmed al-Baghdadi's identity shortly thereafter by means of DNA matching enabled by a sample of the jihadi's blood that an ISIS turncoat had provided to U.S. intelligence well before, the mission commander radioed back to his command post with a brief after-action report declaring: "Got him. One-hundred percent confidence jackpot, over."[92]

After al-Baghdadi's shredded remains were prepared for extraction and an eventual covert burial at sea, the team that took him down conducted a quick sensitive-site exploitation of his compound, gathering up, among other items, a treasure trove of cellphones, laptop computers, and USB flash drives that were thought to contain valuable information regarding the jihadist movement's origins and future plans.[93] This search was greatly aided by key details regarding the compound that had previously been provided to U.S. intelligence by a disaffected jihadist, including a room-by-room description of the compound's floor plan, the location of its underground tunnels, and the probable number of posted guards and their stations.[94] After the team was whisked away by its accompanying flights of helicopters, with none of its members having been killed or seriously wounded during the raid, air attacks by F-15Es and MQ-9s pulverized the compound with AGM-158B joint air-to-surface standoff missiles, Hellfires, and other precision weapons to prevent ISIS from ever converting it into a shrine for its fallen leader.[95]

As additional details regarding the operation began making their way to public light in the days that followed, it was reported that a number of American overhead surveillance platforms had closely monitored al-Baghdadi's finally identified and geolocated hideout for several weeks before the raid to establish a clear pattern-of-life picture of the compound.[96] Moreover, the SOF team that conducted the mission began rehearsing its planned moves near Erbil in Iraq around a week before the operation, using concrete T-walls to practice explosive breaching techniques.[97] On the immediate eve of the mission's launch, the newly installed JCS chairman, Gen. Mark Milley, USA, personally dubbed it Operation Kayla Mueller to honor the young humanitarian aid worker from Arizona who had been seized

and tortured by ISIS in Syria in 2013 and later was confirmed to have died in captivity. General Votel later characterized the flawless raid as “an important milestone not just for the [anti-ISIS] campaign, but for everyone who had been victimized by ISIS under Baghdadi’s leadership.”[98]

In remarkable stroke of good timing, a separate mission conducted not long thereafter by the United States and by the SDF targeted ISIS’s chief spokesman and al-Baghdadi’s putative second-in-command, Abu al-Hassan al-Muhajir, in northwestern Syria not far away. A knowledgeable U.S. official later said that Muhajir would almost surely have been “one of the potential successors” to al-Baghdadi.[99] That key figure had become the public voice of ISIS after his predecessor, Abu Mohammad al-Adnani, had been killed by a coalition air strike in 2016. Not long thereafter an ISIS spokesman confirmed that Muhajir had indeed met his fate in the above-mentioned operation in Syria’s Aleppo province.[100] In their aftermath, no one of note was under any illusion that the two achievements heralded a decisive end to the threat posed by ISIS. However, in the words of an SDF spokesman, the raids that killed al-Baghdadi and Muhajir had “effectively disabled the top ISIS leadership.”[101] In reflecting afterward on the import of the U.S. Joint Special Operations Command’s casebook operation, President Trump said that tracking down the notorious ISIS founder had been, from the very outset, “the top national security priority” of his administration. For his part, Secretary Esper summarized the raid as “a devastating blow for the remnants of ISIS” and “a major victory in the enduring defeat-ISIS mission.”[102]

Some Notable Air War Achievements

Throughout its ultimately successful if also needlessly protracted evolution, Operation Inherent Resolve did not stand out as having occasioned any major new advances in the application of airpower. It did, however, as in all previous instances of U.S. and allied air warfare since Operation Desert Storm, see the coalition's aircrews flying their daily sorties, along with their fellow airmen serving in AFCENT's CAOC as campaign coordinators, all working at the very top of their game. The exemplary professionalism that was displayed by all at the execution level since the war's start in August 2014 well reflected the refined force-employment skills that were first developed and assimilated by all three U.S. air services and their principal coalition partners during the first decade after Vietnam and then further ingrained as their standard operating repertoire ever since.

By the same token, CENTCOM's air effort also saw the combat employment of just about every platform and munition that might conceivably have played a useful role in its war against ISIS. Throughout the campaign's course, the various aircraft contributing to the fight included a total of more than two hundred F-15E, F-16, F/A-18, F-22, AV-8B, A-10, Mirage 2000, Rafale, Super Étendard, Tornado, Typhoon, B-52, and B-1 strikers, along with AC-130 gunships, AH-64 Apache attack helicopters, MQ-1 Predator and MQ-9 Reaper armed RPAs, supporting ISR platforms like the U-2 and the E-3C airborne warning and control system aircraft, and an additional raft of tankers and airlifters that were essential for their combat sustainment. Figure 8.1 shows the relative workload borne by the various participating U.S. combat aircraft in terms of the total number of munitions released by each type against ISIS through May 2017.

The U.S. Air Force's RC-135W Rivet Joint electronic surveillance aircraft also played a key role in supporting the air effort against ISIS. In one notable contribution over northern Iraq in November 2015, to offer just one illustration of its twenty-eight-member crew's vital role, a single Rivet Joint aircraft monitoring the voice communications of an ISIS artillery squad relayed forty-five threat warnings to friendly ground troops, leading

to twenty-seven air strikes that killed at least 135 jihadists and ultimately figured prominently in the liberation of Sinjar city by Kurdish Peshmerga fighters.[1] In a similar key supporting role, the U.S. Air Force's E-8 joint surveillance and target attack radar system aircraft located and confirmed a desert hideout in central Syria where ISIS had stashed away scores of oil tanker trucks. In an ensuing two-day air offensive code-named Operation Olympus, two waves of two dozen U.S. strike aircraft in all then destroyed 188 of the trucks, instantly eliminating an estimated $2 million in prospective illicit oil revenue for ISIS. A collateral aim of that strike mission was to undermine ISIS's self-assurance and fighting spirit. As AFCENT's commander, Lieutenant General Harrigian, well put it afterward, the mission embodied "a larger strategic message we sent to them: Nice try. We found you. Keep trying to hide, we will hunt you down again."[2]

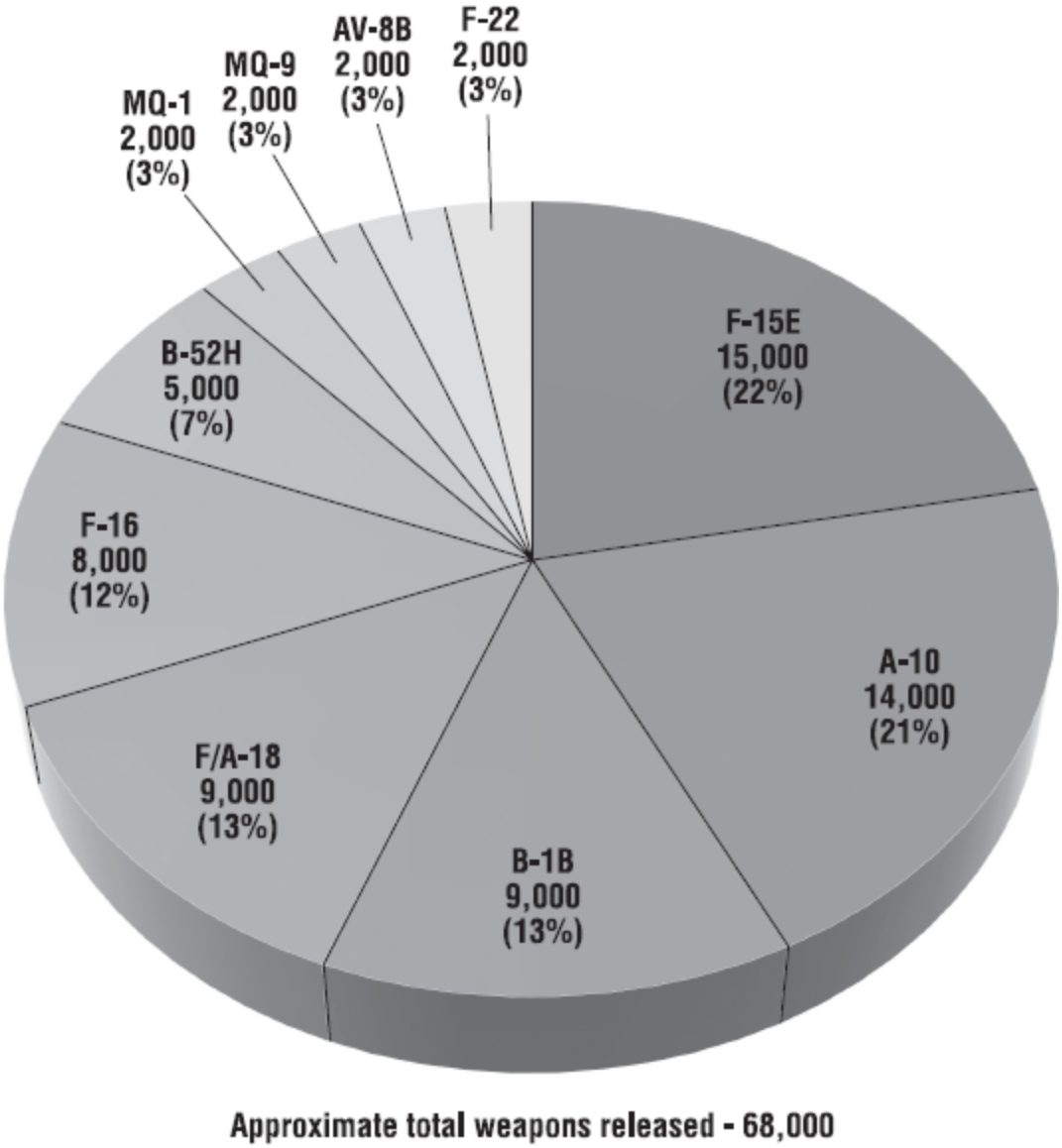


Fig. 8.1. Rough munition numbers delivered per U.S. aircraft type through May 2017

There is an important and mostly unsung air mobility story that also bears recounting in connection with CENTCOM's four-year-long air war against ISIS. To cite just one example of airlift's key behind-the-scenes role in that war, the U.S. Air Force's AMC conducted six precision airdrop missions in Syria in 2016 in direct support of the gathering assault by Kurdish elements and other fighters in the SDF to free Raqqa. Needed supplies for that impending assault were air-dropped at night by AMC's C-17s to ensure that the jihadists would not seize the equipment, which ranged from small-arms ammunition to wheeled vehicles. The bundles of cargo meant for the Peshmerga and SDF were precision-delivered to designated

drop zones using GPS guidance and steerable parachutes, which got the supplies to within ten meters of their intended landing point.[3]

In addition, whatever else one might say about the many leadership failings that hampered the way in which the air war was conducted at the campaign level for too long, from the White House on down through the JCS in Washington and the topmost U.S. Army commanders and their principal subordinates at CENTCOM, the war's effectiveness when it came to accurately putting bombs on target was in no way ever compromised by any shortfalls in the available hardware or aircrew proficiency. To note one especially telling case in point here, the coalition's extensive use of the 250-pound satellite-aided GBU-39 small-diameter bomb against such ISIS targets as tactical positions in built-up areas close to noncombatant civilians contributed significantly to the CAOC's entirely apropos claim that the strikes conducted under its aegis were "the most precise and disciplined in the history of aerial warfare."[4] As one early measure of this laudable performance, as of the end of September 2015, when CENTCOM's war against ISIS had completed its first year, U.S. and coalition forces had expended more than 20,000 PGMs in all against ISIS targets, with that number constituting a full 99 percent of all the munitions that were employed throughout the effort.[5]

In perhaps its most notable milestone event, the air war against ISIS also finally saw the combat debut of the U.S. Air Force's fifth-generation F-22 Raptor stealth fighter that first entered line service nearly a decade before in 2005, albeit not in the air dominance role for which it was initially acquired but rather as a highly survivable ground-attack platform and one mounting an unsurpassed suite of sensors for providing enhanced battlespace awareness for all other airborne participants in the execution chain. These first-ever combat sorties flown by the Raptor took place during the initial night of coalition air attacks against ISIS targets in Syria on September 23, 2014, when a four-ship flight was tasked first with destroying an ISIS command post with 1,000-pound satellite-aided GBU-32 JDAMs and then serving as strike escorts for a B-1 attacking its own assigned targets with JDAMs inside Syria's well-defended airspace.[6]

When the F-22s entered Syrian airspace for the first time that night, the acquisition and tracking radar operators of Syria's integrated air defense system (IADS) evidently had no clue that they were there. As one of the

Raptor pilots who flew that night later recalled, “it’s a little nerve-wracking, because stealth is not always 100-percent, so you have to be very cognizant about what’s going on around you. But once you’re in there, the jet tells me exactly who’s looking at me, and the reality was I didn’t have to worry about anybody.”[7] Because of unanticipated delays in getting their mission airborne, the Raptor pilots chose to exercise their supercruise option, climbing to 40,000 feet and then accelerating to Mach 1.5 without engaging their voraciously fuel-consuming afterburners. In all, what was initially briefed to be an anticipated six-hour night mission ended up lasting nine hours, with a daylight recovery the following morning. It bears noting in passing here that those top-of-the-line fighters were sent to the war zone in the first place *not* with the intent to be used in routine strike operations but rather as an added source of insurance, given Syria’s possession of an unusually sophisticated and capable Soviet-style IADS that American and NATO aircrews had never before encountered in a combat setting. In the end, that hedge proved to have been well-advised but unneeded that first night after Syria’s air defenders chose wisely to stand down rather than react when their air sovereignty was first breached by coalition combat aircraft.[8]

One novel airpower-related development that did emerge and prove useful during AFCENT’s war against ISIS was an operationally employable product of the Pentagon-sponsored Defense Innovation Unit Experimental (or DIUx for short), an initiative launched in 2015 aimed at helping the military to make quicker use of emerging commercial technologies. That product exploits a dynamic targeting tool that fuses together all available information, including open-source information, pertaining to a target of interest and then transmits that fused information to an airborne pilot in real time. The tool integrates a variety of computer applications, from simple ones like Google Earth to more sophisticated ones, in a minor breakthrough that combines cybernetic procedures with live-fire operations. Of it, Lieutenant General Harrigian said: “I can tell you inside the CAOC, we are being very aggressive about monitoring what’s happening in social media and then leveraging that from a reporting perspective or doing some analysis about what’s going on with the enemy.” As for its practical combat value, one dramatic example was spotlighted by the former commander of Air Combat Command, Gen. Hawk Carlisle, USAF (Ret.), who explained

how analysts in the CAOC supporting the air war against ISIS had been "combing through social media, and they see some moron standing at this [ISIS weapons depot]…. So they do some work—long story short, about 22 hours later through that very building, three JDAMs take that entire building out."[9]

With respect to the vast array of disparate information accessible in principle by this particular DIUx application, General Harrigian asked pointedly when he first took over as AFCENT's commander: "How do we manage all this data, and then how do we effectively give it to the people that need to utilize it the most?" That manifestation of high-level interest eventually led to six DIUx programs getting established and running in the CAOC to digitize all needed combat-support information and eliminate often time-consuming paper-and-pencil planning. That initiative in turn did away with the need for CAOC planners to do hand calculations that can easily lead to computational errors. One example given for this particular application's value was a program called Jigsaw that manages the tanker flow and that deconflicts airspace, thus saving three to four hours of tedious and mistake-prone manual work each day.[10]

Finally, one more notable OIR novelty at the tactical level, apart from the AGM-158B joint air-to-surface standoff missiles mentioned earlier, was the first-ever combat use of a precision rocket called the WGU-59/B advanced precision-kill weapon system. This new product entailed the insertion of a laser guidance kit in between the motor and 9-pound warhead of the standard 2.75-inch-diameter unguided rocket that had long been used by many U.S. and coalition combat aircraft.[11] The novel weapon, acquired to complement the AGM-114 Hellfire missile carried by the MQ-1 Predator and MQ-9 Reaper RPAs at only a third the unit cost, offered a greatly expanded option for being employed in built-up urban areas with a very low attendant probability of causing unintended harm to friendly troops and enemy noncombatants in the immediate target area. More that sixty of them were loaded on A-10s and effectively used during the battle to free Mosul in late 2016 and early 2017.[12]

The Russian Intervention

As briefly mentioned earlier, a little more than a year after the start of Operation Inherent Resolve, the Russian Federation, at the express request of the Syrian government, sent more than two dozen combat aircraft to Syria in mid-September 2015 in a last-ditch effort to prop up and help save the faltering regime of dictator Bashar al-Assad in the ongoing Syrian civil war. Eyeing the lucrative opportunity that must have seemed all but irresistible for such a brazen move enabled by President Obama's failure to honor his ostentatiously declared "red line" after Assad ignored it and used chemical weapons against his own people, Russia's President Putin no doubt saw a ripe occasion for the first time since 1972 to establish a new, and this time potentially enduring, Russian foothold in the Middle East after the Soviet Union had been rudely ejected from the region by a brilliant stroke of diplomatic force majeure orchestrated behind the scenes by Secretary of State Henry Kissinger and executed by Egypt's president, Anwar Sadat.[1]

The initial deployment package featured a contingent of thirty-two Su-24, Su-25, and Su-34 ground-attack aircraft and Su-30 multirole fighters, plus another dozen Mi-24 attack helicopters. It also included two SAM batteries, nine T-90 tanks, and enough modular housing units to accommodate two thousand Russian military personnel. The inclusion of Su-30s in the deployment was particularly noteworthy, considering that those aircraft were originally fielded principally as air-to-air platforms, suggesting that those who planned the intervention expressly sought to include an air dominance capability for the airspace within which their aircraft would be operating.

The deployment, a sizable air add-on to Russia's already extant military pipeline to the naval port of Tartus called the Syrian Express, began with the first aircraft arriving into Syria's Hmeimim air base near Latakia, after which an initial airfield defense umbrella was set up with the fielding of a collocated SA-22 SAM site. It took place at a time when Russian RPAs had already been surveying the local battlespace for potential targets for possible future air strikes against rebel forces threatening the Assad regime.

It also began, perhaps not entirely coincidentally, within a year after the outgoing chairman of the JCS, General Dempsey, openly voiced his concern that the Obama administration risked inheriting a stalemate in the region if it expanded its air war against ISIS into Syria.[2] Not long after they completed their initial air deployment, the Russians installed a full-up IADS at Hmeimim consisting of mobile and interchangeable S-300 and S-400 SAM launchers, along with other short-range air defenses, that gave them an assessed overall capability in principle to bring down any aircraft and cruise missiles operating within a radius of 250 miles in all directions from western Syria, including over portions of Turkey, Israel, Jordan, and the eastern Mediterranean.[3]

An Indifferent White House at First

Remarkably, in responding to this sudden Russian intrusion into an active American war zone, senior officials in the Obama administration seemed at first to have been anything but perturbed by it, with one frankly admitting that "there are not [any] discussions [occurring within the administration] about what this means for U.S. influence on the war against ISIS."[4] Indeed, to the contrary, Secretary Carter spoke quite matter-of-factly with his Russian counterpart regarding the prospective virtues of what the Department of Defense characterized as "mechanisms for deconfliction."[5] This all added up to a tacit U.S. acceptance that the Russians fully intended to conduct combat operations on Assad's behalf within the same airspace in which coalition forces had long been operating against ISIS and that the Obama administration, for its part, was quite ready to accede to that fact without even a hint of offering any pushback against this newly arisen complication. Instead of adopting a principled stance against the intervention, Pentagon officials shrugged it off with a dismissive retort that the Russians were "going to inherit Assad's mess," with one smugly adding: "I don't know if they have looked at it from all possible angles."[6] When asked whether the administration had any special insights into or concerns regarding Moscow's likely ultimate goals for its intervention, the White House's press secretary, Josh Earnest, replied with uncharacteristic diffidence: "To be blunt about it, no."[7] On the contrary, instead of showing justifiable concern over this upstart appearance of Russian fighting forces in Syria and their potential for throwing a spanner in the works of his own still-reluctant effort against ISIS, President Obama once again reverted to

his usual supercilious form in downplaying the development when he declared, less than a month into the deployment, that any Russian attempt to prop up Assad "is just going to get them stuck in a quagmire, and it won't work."[8] As it turned out, Obama could not have been further from the truth in his blithe assessment of Moscow's calculations, considering that its bold deployment into Syria had actually been carefully thought through beforehand by Putin and by Russia's Defense Ministry as a highly timeand scope-limited initiative that completely achieved its intended goal of securing Assad's regime in the end.

It did not take long for this sublime administration indifference regarding Moscow's intervention in Syria to filter down to the American aircrews who would soon be flying in potentially hostile airspace shared by Russian combat aircraft. One U.S. Air Force F-16 pilot who repeatedly flew against ISIS over Syria while commingled with armed Russian fighters later recalled that at the outset, "this was shocking, to say the least. I distinctly remember asking AFCENT's leadership what we were going to do about them showing up in our airspace…. And the answer was nothing…. Just keep doing what you'd been doing and be cognizant that a Su-34 could join you in the stack and a Su-35 may intercept you." His gut reaction to that much-concerning reply was: "Wait … what??"[9]

A Subsequent Failed Quest for Coordinated Operations

Also worth noting in this regard, a minor donnybrook erupted in Washington not long afterward over a bid by some in the Obama administration to harmonize CENTCOM's own air operations in Syria with those now being conducted by the Russians. That half-baked idea reportedly called for the establishment of a notional Joint Implementation Group that would first exchange intelligence information regarding the various locations harboring elements of al-Qaeda's Syrian affiliate, Jabhat al-Nusra, and then determine which actions might be taken against them and how best to deconflict any ensuing air operations by both countries. The central organizing theme behind this proposed bilateral initiative envisaged Moscow wielding its considerable leverage over Assad to prevent the Syrian air force from conducting any kinetic operations. Despite a cease-fire arrangement that had been arrived at in principle not long before, Syrian warplanes had continued to conduct recurrent bombing of innocent civilians in rebel-occupied cities, with Russian aircraft often

joining the Syrian jets in carrying out that wanton carnage. To address that discomfiting situation, Secretary of State Kerry flew to Moscow in mid-July 2016 for a personal meeting with Putin in an attempt to get the Russian president to help salvage a failing cease-fire in Syria by agreeing to "integrate" U.S. and Russian air operations against terrorist targets.[10]

In response to that naive and ill-considered proposal, a rising quorum of senior American defense, diplomatic, and intelligence professionals pushed back hard, questioning the wisdom of Kerry's enthusiasm for joining ranks with the Russians and countering that his would-be "deal" would neither attenuate Syrian and Russian combat operations nor incline Assad toward negotiating an end to his long-festering civil war. On both counts, one former administration official who had resigned his position as a special adviser for Syria in 2012 remarked with respect to Kerry's proposed initiative: "As desirable as it [may be] to damage a loathsome al-Qaeda entity, military collaboration with Russia could also exact long-term costs to America's reputation and the broader fight against extremism, costs potentially far exceeding the benefits of a here-and-now body count."[11] A related American news report regarding these deliberations suggested that the intramural debate within the U.S. bureaucracy over how far to go in cooperating with the Russians had "exposed perhaps the greatest schism within the administration [in all of 2016 to date] over the way ahead in Syria."[12]

In a like-minded spirit, CENTCOM's air component commander, Lt. Gen. Jeffrey Harrigian, added that as long as the Russians continued to fail to honor the terms of a cessation-of-hostilities agreement that had been worked out with them in principle by the Department of State, "I'm not going to tell you that I trust them."[13] As for the possibility then being aired of cooperative Russian-American air operations against ISIS, Harrigian said: "That will be something that we'll have to work out…. We've got work to do to understand what that plan is going to look like." He quickly added, plainly unenthusiastic over the entire idea: "With respect to what the Russians might bring to this fight, I'm not going to speculate about that right now. That would probably be better asked at the diplomatic level."[14] Even in the best of worlds, moreover, any such arrangement would have to be negotiated and developed in detail almost from scratch, since the U.S. government had cut off all official military-to-military ties with the

Russians after they invaded and annexed the Crimean peninsula from Ukraine in 2014.

As for the question of possible American cooperation with the Russian intervention, the U.S. Air Force's deputy chief of staff for ISR, Lt. Gen. Bob Otto, in collegial concurrence with Lieutenant General Harrigian, understandably remarked that he too had "a low level of trust in the Russians," adding: "I would not envision a relationship where I would share some of my intelligence with them. I'm not saying it couldn't happen, I just don't envision it [based on] their demonstrated intent."[15] In the end, this once-ballyhooed agreement that Secretary of State Kerry had sought to negotiate with the Russians, whereby the United States would consent to support Russia in attacking al-Qaeda targets in Syria in exchange for a promised Russian-Syrian cease-fire and delivery of humanitarian aid to Syrian civilians, finally collapsed of its own manifest inadequacy and overreach, with nothing accomplished to show for the failed effort.

More a Sledgehammer Than a Scalpel

On September 30, 2015, the Russian Federation Council formally gave President Putin its approval for the combat employment of Russian military forces in Syria.[16] Less than an hour later, the Russian Air Force (RuAF) launched its first air attacks, with twenty strike sorties flown against antiregime forces that were posing imminent threats to Assad's beleaguered troops near the cities of Homs and Aleppo.[17] Within the first week of Russia's combat involvement in Syria, the Russian Navy also fired a mostly demonstrative barrage of twenty-six SSN-30 Kaliber cruise missiles from its Caspian Sea flotilla, which then flew more than nine hundred miles to their assigned targets in Syria. The missile was said to offer a capability comparable to that of the U.S. Navy's BGM-109 Tomahawk land-attack missile (TLAM), with a target-attack accuracy of several meters.

By October 20, less a month into its air offensive, the RuAF reported that it had conducted 700 strike sorties in all against 690 rebel targets, with 1 out of 6 of those sorties taking place during the hours of darkness. In those attacks, Su-24, Su-25, and Su-34 aircraft occasionally expended Russian GLONASS satellite-aided bombs and laser-guided air-to-surface missiles but mainly delivered unguided high-explosive bombs and cluster munitions.[18] These air attacks against anti-Assad rebels and Syrian civilians living in rebel-held neighborhoods were described as "indiscriminate," with

General Otto calling them “representative of what you’d expect from dumb bombs being dropped from airplanes at medium altitude, which was not that impressive.”[19] The same U.S. Air Force F-16 pilot quoted above later bore witness in that regard: “I watched this happen near Aleppo several times. They’d just pick a rebel neighborhood and obliterate it.”[20]

In clear testimony to the indiscriminate nature of Russia’s bombing on behalf of Assad, Chris Wood, the director of Airwars, a London-based organization that was monitoring the civilian fatalities and collateral damage to infrastructure being caused by CENTCOM’s air strikes against ISIS elements in Iraq, Syria, and Libya, reported more than two years into the campaign that the U.S.-led coalition was assessed as having inadvertently killed some 600 civilians since August 2014, whereas the RuAF had killed 3,600 or more Syrian civilians in just a single year. The totally convincing explanation given for that substantial contrast in comparative harm done was that the Russians had deliberately targeted civilian infrastructure and civilian-occupied areas in which anti-Assad rebel forces were known to be concentrated, with nearly 80 percent of the munitions delivered by Russian aircraft having been unguided bombs and rockets.[21] As was later remarked by the most thorough strategic appraisal of Russia’s intervention in Syria to have appeared in print thus far, unlike the “drizzling mode of attack of the Western coalition [against ISIS], Russia’s air campaign [must have] felt like a sudden and torrential downpour.”[22] In all, Russia’s Ministry of Defense reported in a statement released in late 2017 that the RuAF had flown more than 30,000 combat sorties (5,165 in 2015 and 13,848 in 2016) and conducted more than 92,000 air strikes in Syria (more than 50,000 in 2016) since the start of its operation on September 30, 2015.[23] That level of effort simply in terms of sortie counts easily matched or even exceeded that of OIR over Iraq and Syria during the same length of time.

An Unrelated U.S. Retaliation against Syria

In a concurrent event that had no direct bearing on OIR but that well dramatized the uniquely complex and conflicted battlespace within which that effort was now being conducted, an especially gruesome attack ordered by Assad on April 4, 2017, using chemical weapons, thought to have been the nerve agent sarin mixed with chlorine gas, against hapless Syrian civilians in the rebel-held town of Khan Shaykhun prompted President

Trump, after weighing his response options, to order a punitive counterattack by sixty-one TLAMs launched from the U. S. Navy's *Arleigh Burke–class* guided-missile destroyers USS *Ross* and USS *Porter* against sixty target aim points at the Shayrat air base in central Syria. That salvo of cruise missiles, which was launched two days later on April 6, struck at 0345 local time and targeted the airfield's hangars, control tower, and munitions storage facilities. The attack, which represented Trump's most forceful military move since becoming president, was the first-ever intentional U. S. kinetic strike directed against Assad's government. About four hours before launching it, the U.S. military command informed its Russian counterpart in Syria that "military action" was imminently forthcoming, and Trump ordered the retaliatory strike without first seeking the approval of Congress or the support of the United Nations, declaring that the image of Syrian children killed in the attack had been "a disgrace to humanity [that crossed] a lot of red lines."[24]

The Block IV TLAM's 1,000-pound warhead yielded insufficient punch to crater the base's runway effectively, but the attack did succeed in destroying as many as twenty-four sheltered Syrian Su-22 and MiG-23 fighters. Reportedly fifty-seven of the TLAM raid's fifty-nine intended targets were successfully struck, eliminating what a Pentagon spokesman later reported as around 20 percent of Syria's operational fixed-wing combat aircraft. Much of the remainder of Syria's fighter force was assessed as being unserviceable due to a lack of adequate maintenance and spare parts. The TLAM attack, which also destroyed a Russian-made Syrian SAM and radar site, prompted no observed reaction from the Russian air defenses that had been deployed in the adjacent region.[25] Shortly thereafter, however, clearly seeking a better sanctuary for what remained of its air force, the Assad government relocated most of its surviving combat aircraft to the air base at Bassel al-Assad International Airport, which placed them in closer proximity to the Russian-occupied Hmeimim air base with its IADS umbrella and Russian military personnel presence. As for the possibility of follow-on U.S. cruise missile attacks despite Assad's implementation of those protective measures, Secretary Mattis warned that "the Syrian regime should think long and hard before it again acts so recklessly in violation of international law against the use of chemical

weapons. If they use chemical weapons, they are going to pay a very, very stiff price."[26]

Ensuing Airspace Complications

AFCENT's CAOC, for its part, received no advance notification of this sudden intrusion of nearly a wing's worth of Russian combat aircraft into its most active regional area of responsibility, aircraft that, as already noted, began conducting around-the-clock strike operations in support of Assad's regime on September 30, 2015. Almost immediately thereafter, the coalition's pilots found themselves operating within ten to twenty miles of armed Russian fighters in now-hot airspace, with some aerial encounters between the opposing aircraft said to have been as close as five hundred feet.

The above-quoted U.S. Air Force F-16 pilot, Maj. Greg Balzhiser, who flew many of the first combat sorties against ISIS in Syria, later reconstructed in rich detail some of these encounters and the concerns they generated among American airmen taking part in the campaign: "When flying over Mara [in Syria] in September and October 2015, we would routinely have Fencer and Fullback aircraft [NATO code names for the Russian Su-24 and Su-34 fighters] come up to Aleppo ten to fifteen miles south to conduct attacks [against Syrian rebel positions]. We experienced several intercepts by Su-35s as well, with them flying up to meet our jets as they crossed the border from Turkey into northern Syria. The most difficult part of this for me, as the chief tactician, was how to instruct our pilots to react." As already reported by this seasoned pilot above,

> the guidance initially was to "do nothing" even if threatened and basically pretend the Russians weren't there. It was my impression that AFCENT didn't know exactly how they wanted to react during those early days. They certainly didn't want to provide a kinetic response, so it felt a little as if we were being hung out to dry in the early days. Going about your business with a Flanker [Su-35] barreling toward you felt wrong, even though I understood the intent. I had several phone conversations with the [two-star] DCFACC throughout the course of early October regarding this during the early days of Russian involvement. Every day was different because something happened that hadn't

> happened before, and we hadn't really "normalized" our operations yet in the face of increasing Russian activity.[27]

As this OIR-experienced pilot expanded further regarding his thoughts at the time,

> My own feeling here … was that if something happened, we would either die, eject over contested territory, or come back to some sort of disciplinary action for starting an international conflict with Russia because we antagonized them by assuming a defensive posture instead of just sitting there and pretending nothing was happening…. Looking back, I can see the conundrum our leadership was in from having been caught so off-guard by the quick Russian build-up. It was nice to see that later Lieutenant General Harrigian fully backed our aircrews to apply a clear ROE.[28]

When the U.S. Air Force's F-22s first arrived on scene to take part in OIR, 95 percent of their mission tasking was devoted to air-to-ground operations. By the time the complexity of the regional airspace had increased so dramatically, with Russian and Syrian fighters also now flying in the same airspace as that being used by the coalition, that mission tasking reversed to become 95 percent air superiority.[29] As the commander of the 27th Expeditionary Fighter Squadron operating that aircraft said of its stealth properties: "We're not invisible. We are often times unobserved. If they know we're there, most of the time it's because we allowed them to know we're there."[30] In its evolved air superiority mission in the fight against ISIS, the Raptor often served as an airborne quarterback for other air operations, relying on command and control inputs from the U.S. Air Force's E-3C airborne warning and control system (AWACS) and the Royal Australian Air Force's supporting E-7 Wedgetail, and using its own sensor package to fine-tune the overall strike force and keep track of any noncoalition aircraft and provide them every incentive to get out of the way when necessary.

Whenever airborne with a mission tasking over Syria during the earliest phase of the war, an F-22 pilot was typically designated the mission commander for all deliberate strike packages, with a principal responsibility to coordinate other strikers like F-15Es and even B-52s and clearing them in and out of potentially contested airspace as operational circumstances of

the moment might require. As coalition air operations over Syria further intensified, however, one notable liability suffered by the F-22 in that arena was that it lacked an onboard targeting pod, which meant that its pilot could not assess whether there were any civilians on the ground in the vicinity of approved deliberate targets. With CENTCOM and the CAOC having finally pushed target engagement authority down to the cockpit level in some cases, mission commanders were given the ultimate go/no-go decision for striking preplanned targets. That meant that F-22s could not release their internally carried air-to-ground munitions without someone else with the appropriate real-time situation awareness first clearing their target area.[31] On the other hand, some Raptor units committed to the campaign had the ability to deliver the satellite-aided GBU-39 small-diameter bomb. They were accordingly tasked with providing on-call CAS backup on occasion, thereby imparting to the CAOC what its chief of combat plans later called "a great bit of flexibility as we tried to find ways to continue supporting the ground forces while concurrently continuing deeper strikes."[32]

Because of its low-observable properties and advanced onboard air-to-air sensor capability, the F-22 was also typically the first coalition aircraft to reenter Syrian airspace after the occurrence of a major aerial incident, such as the U.S. downings of Syrian manned aircraft and drones (see below for more on this) and the just-noted TLAM strike against Syria's al-Shayrat air base, in a role that showcased not the Raptor's unmatched air-to-air combat capability but rather its unique ability to deconflict complex airspace and identify other aircraft and SAM sites and relay this information to other coalition jets operating over Syria. Similarly, should Russian or Syrian acquisition and tracking radars ever lock onto a coalition aircraft, "the only thing we'll put in there is F-22s" because "it's the only thing that can survive in there," said the commander of the U.S. Air Force's 380th Air Expeditionary Wing, Brig. Gen. Charles Corcoran. Only after the airspace was deemed to be sufficiently safe would defenseless coalition aircraft like the AWACS and tankers be cleared back into it.[33]

The Russian air presence in Syria made for an even further unwelcome headache for the CAOC when two Su-34 strike fighters experienced a near head-on merge with an approaching flight of U.S. Navy F/A-18s on June 16, 2016, as the Russian aircraft were attacking what the Department of Defense described as a border garrison sheltering some two hundred anti-

Assad rebels in a small town just on the Syrian side of the Syrian-Jordanian border. The Navy fighters had been scrambled to intercept the attacking Russian aircraft, whose pilots departed the area after the American aircraft flew close enough to visually identify them as Su-34s. Not long thereafter, however, once the Hornets had reached a sufficiently low fuel state that they were forced to depart the area to find a tanker, the Su-34s with their substantially greater internal fuel capacity returned to continue their bombing of the anti-Assad rebels. The next day U.S. officials convened what was called an "extraordinary" video teleconference session with their Russian counterparts to address the incident, at which time they expressed their "strong concerns" to the Russians regarding the untoward occurrence.[34]

In another such confrontation, two Russian Su-25s crossed the deconfliction line established jointly by the United States and Russia near Abu Kamal in Syria and were promptly intercepted by U.S. Air Force F-22s, which, according to an AFCENT spokesman, "conducted multiple maneuvers to persuade the Su-25s to depart out [of the] conflicted airspace." During that evolution, which lasted around forty minutes, both F-22s popped out flares after cutting in front of the Russian aircraft in a tactic commonly known as "head-butting" to send them a strong message.[35] Although the Russian pilots duly backed off and departed the contested area in the end, this event was just one in which Russian jets had crossed the agreed deconfliction line as many as six to eight times a day throughout the preceding month.[36]

One U.S. Navy F/A-18E pilot described the airspace situation over Syria as fairly benign and presenting little ground for undue U. S. distress: "The OIR campaign," he said, "is a coalition effort supported by 65 nations. Because of this, the coordination and separation of these air forces is always a concern and a challenge, and therefore [we] operate under the same tactical control frequencies utilizing strict airspace management and delegation procedures. While operating around Russian forces, we had a shared memorandum of understanding to deconflict air space, and both sides adopted an avoidance mindset, which proved effective. We saw very few issues with this."[37]

Quite a different story, however, was told later on when an American radar aircraft, presumably a U.S. Air Force E-3C, was flying in a routine

aerial surveillance racetrack pattern over Syria and detected an incoming Russian Su-35 air combat fighter that ignored repeated radio warnings transmitted to its pilot. The Su-35 cut across the American aircraft's nose just a few hundred feet out in front, close enough to cause the AWACS to fly into the Russian fighter's wake turbulence. Such incidents soon led American pilots to deem the conflicted skies over Syria as "an international incident waiting to happen," according to one informed account of the experience. Despite an ostensible agreement that had been reached in principle between the U.S. and Russian governments to deconflict the airspace over Syria, repeated close calls of that nature were reported for incidents in which the Russian pilots were either unbriefed on the agreed-to rules or were appearing to ignore them.

In 2015 U.S. and Russian commanders in the region had signed a mutually agreed-to memorandum of understanding that had been written expressly to ensure such safe deconfliction. At the core of the four-page memorandum was what American pilots called the "rule of threes," with pilots on both sides directed to maintain at least three nautical miles of lateral separation from one another and three thousand feet of separation vertically. When one considers that the mix of hardware operating over Syria at any given moment might entail as many as fifty to seventy-five manned and unmanned aircraft, not only American and Russian but also Syrian, Australian, British, Danish, Turkish, Emirati, Saudi, and Jordanian platforms, one can easily visualize the ever-present risk of a midair collision. Every coalition aircraft operating within that congested airspace was equipped with a transponder that emitted a four-digit code, called "squawking," which enabled friendly air traffic controllers to identify them and thus ensure safe separation. Russian aircraft operating within Syrian airspace, however, did not squawk in that manner and accordingly were only displayed as unidentified blips on coalition radar displays. Nor did Russian pilots typically acknowledge radio calls made to them over the internationally accepted VHF and UHF emergency radio frequencies called guard channel. As General Corcoran remarked: "Rarely, if ever, do they respond verbally. Rarely, if ever, do they move. We get out of their way. We don't know what they can see or not see, and we don't want them running into one of us."[38]

In order to cope effectively with this intrusive Russian presence in Syrian airspace that was also being heavily used by coalition aircraft, General Brown put into place what his chief of combat plans later called “a deliberate approach not to cede space to Russia. We were not going to err on the side of conservatism, only to end up being pushed out of Syria after all was said and done.” Instead, his lead combat planner remarked, General Brown “asked us to develop a deliberate plan that included accepting what he called ‘smart risk’ so as to allow us to remain in the area and to continue to fly where we wanted to and needed to. Had he not demanded that, there’s a good chance that we would have become overly risk-averse at the expense of our ability to support the anti-Assad ground forces as needed while also directly engaging ISIS ourselves in Syria, in which case the war could have still been ongoing today at the level it was then.” Reflecting further on this newly arisen situation, his chief combat planner added that “General Brown’s words for us all were to ‘breathe through our noses,’ meaning that it was a serious matter but must be confronted with a calm demeanor…. There was no room for miscalculations, and a knee-jerk reaction could be disastrous, [with] armed Russian fighters in trail of U.S. fighters, knowing that U.S. pilots’ lives were merely a pickle button away from ending and quite possibly beginning the next world war.”[39]

Later on, as the air war progressed further, with the Russians still operating in closely adjacent areas, AFCENT’s third successive CFACC, Lieutenant General Harrigian, accurately observed that the airspace over Syria had become “tight,” with a frequent needed resort to the hotline, in a few cases even at the two- and three-star level, in an effort “to drive down ambiguity.”[40] Amplifying on the unique and potentially dangerous complexity of that airspace, he added: “In Raqqa, you are kind of right in the heart of the [Russian and Syrian] integrated air defense.” That situation led him to develop an incremental plan intended to “test and assess” in a situation in which trust between the two sides was virtually nonexistent, and in which American combat aircraft would pull out, and then gradually begin inching back into Syrian airspace. Reflecting later on the painstaking sequential procedures it often dictated, he said: “What I told the guys was, ‘I want a deliberate approach to regain our ability to operate in here. We’ve got to do it over time.’…. It was a poker game. I put down a card, they [the Russians and Syrians] put down a card. And I’m sitting at the head of the

table deciding every day when I was going to put the next captain to go in a little deeper." Fortunately, the Russians and Syrians never attempted to challenge the F-22s or any other American aircraft operating in that common block of tight airspace.[41]

In one especially tense episode, American combat aircraft were airborne over Syria "before, during, and after" the U.S. TLAM strikes on April 6, 2017, said General Harrigian, "in case the Syrians or the Russians made a run at us" and tried to attack U.S. positions on the ground. He added that "as the Russians rotate in new forces, the newer pilots become more aggressive, and I remind them [the Russians] that we will always be in a position to defend ourselves."[42] As General Harrigian later explained it, the arrangement for shared responsibility for ROE observance had gradually evolved in his capacity as the CFACC; it provided him an overall commander's intent and broad guidance, and he enabled his line airmen fighting at the point of contact to execute their missions as briefed, making judgment calls from their cockpits as needed in real time. "It gets back," General Harrigian said, "to empowering our team. When I talk about empowering, there's a trust factor. You're going to make the decision, and I'll back you up."[43] That was exactly what played itself out in the instance of the Syrian Fitter shootdown discussed below.

In this regard, another F-22 pilot remarked: "It's so crowded [that] the typical employment game plans [and] tactics that we use are happening at much longer ranges than the current fight. It really accelerates our time lines and puts us into very short decision times." To make matters even more tense and complex, when Russian pilots appear to be getting inside agreed deconfliction lines, "you don't know if they are doing this to test us, to see what our response is, or if it's completely innocent. That's the call that we have to make every day."[44]

Noting early on that the Russian side was no less mindful of the airspace conundrum that their intervention in Syria had occasioned, a spokesman for the Russian Ministry of Defense, Maj. Gen. Igor Konashenkov, cautioned the U.S.-led anti-ISIS coalition that "Russian air defense crews are unlikely to have time to clarify via the [deconfliction] line the exact flight path of missiles and who their carrier platforms belong to." Yet as an Israeli analyst insightfully noted on this count, Moscow had not yet called on its air defenses in Syria to defend Assad's forces,

suggesting that it “is unlikely to do so for fear of an armed confrontation with the U.S. and its partners.” This appraisal went on to say that targeting American aircraft like the F-22 “remains a major challenge for Russian air defenses” and suggested that Moscow wished to “avoid direct confrontation with Washington and Jerusalem” since, even though “Russia’s modern air defenses in Syria are formidable, they are not super-weapons or ‘game-changers,’ and are present in the region in only limited numbers.” It further spotlighted the obvious fact that the conflict in and over Syria “has enabled Moscow to evaluate many different air defense assets … under real combat conditions,” an experience that will no doubt “enhance the capability of Russian air defenses in the future.” However, that same assessment concluded that Moscow’s tough talk such as that cited immediately above had been intended “primarily to reassure Russian and pro-Assad audiences.”[45]

Regarding the unprecedented commingling of potentially hostile Russian, Syrian, and Turkish warplanes, and sometimes even Iranian drones in the same airspace with the coalition’s jets over Syria, a U.S. Air Force F-15E weapons systems officer with extensive flight experience in that conflict suggested helpfully that “not all adversary aircraft are created equal. For aircrews in the [anti-ISIS coalition], escalation with a global power like Russia would be far riskier than with a failed state like Syria.” Given that new and in many ways unique operating circumstance for American aircrews, he and a colleague raised an important question regarding whether the reasonably assessed need to react in self-defense could affect the campaign’s overall strategic direction and “whether tactics are driving strategy in Syria.” The danger here, they warned, is “a temptation on the part of policymakers to micromanage tactical decisions, often in ways that are incongruent with the speed of combat and the complexity of multi-sided civil conflict.”[46]

Expanding further on that line of thought, the same two writers five months later characterized this newly emergent, first-ever in modern warfare as “a multi-sided war [in which] the United States [had] an incentive to try and control escalation with unfriendly powers engaged in a parallel conflict in the same area of operations,” one in which “there were times [when] control of the air was not guaranteed” despite the clear technological dominance of the coalition and in which “attributional

ambiguity in combat" was a unique and unprecedented new reality facing American and coalition aircrews. All of this, they suggested, has introduced a new imperative for American airmen to begin giving more focused and sustained thought in their development of tactics, techniques, and procedures aimed at determining with greater confidence "how best to plan, equip and train for future kinetic operations where the United States may not be the only actor present."[47]

In that regard, after having visited the CAOC in Qatar and being briefed by its leaders and key staffers, one reporter rightly called OIR "one of the most complex campaigns in the history of the U.S. Air Force," given its daunting challenge of pounding ISIS into oblivion "without setting off an unintentional conflict with Russian, Syrian and Iranian forces also buzzing over the battlefield." To deal effectively with that unprecedented new extent of complexity, the United Kingdom's air contingent commander attached to AFCENT, Royal Air Force air commodore Johnny Stringer, suggested that the CAOC's latest set of emergent challenges had made for a degree of allied military-to-military cohesion and coordination that had not hitherto been seen in U.S. combat experience since World War II.[48]

The Syrian Fitter Shootdown

Given the daunting complexity of the operating environment within Syrian airspace, with U.S., other coalition, Russian, Syrian, and sometimes Turkish combat aircraft and even Iranian drones commingled within scant miles or less of one another, it was bound to be just a matter of time before friendly fighters encountered a circumstance in which actually firing on another aircraft assessed as hostile and threatening might be warranted by unfolding events. Sure enough, on June 18, 2017, Lt. Cdr. Michael Tremel, leading a flight of four U.S. Navy F/A-18E Super Hornets from the aircraft carrier USS *George H. W. Bush*, downed a Syrian Su-22 ground-attack fighter (NATO code name Fitter) south of Tabqa after he determined that the opposing aircraft presented an immediate and credible threat to friendly SDF troops. It was the first time an American had shot down a manned enemy aircraft in aerial combat since a U.S. Air Force F-16 pilot shot down a Serbian MiG-29 during NATO's air war for Kosovo nearly two decades before on May 4, 1999. Although Commander Tremel tried his best to warn the Syrian pilot away by popping flares and attempting to raise the pilot on guard channel before he finally fired as a last resort, the leadership of the

Russian air presence in Syria nonetheless deemed the incident to have been sufficiently provocative that they threatened to begin treating *all* aircraft flying west of the Euphrates River as presumed hostiles. They also threatened to shut down the hotline that had been established between the two sides to deconflict the airspace in which both were operating.

For a time the Fitter shootdown definitely ratcheted up tensions between the two sides, confirming an observation by Gen. Hawk Carlisle, USAF (Ret.), that "the potential for this kind of thing to happen went up drastically" after the Russians inserted themselves into the Syrian civil war in support of Assad. Former U.S. Air Force chief of staff Gen. Merrill McPeak added that with Russian and American aircraft conducting combat operations "in what amounts to the same airspace, … then you have the prospect of U.S.-Russian air combat. And that ought to be troubling to everybody." McPeak went on to warn that if the Russians were not bluffing in their threat to begin targeting coalition aircraft, and if ground-based Russian air defenses in Syria began tracking and locking onto those aircraft, that could change both the situation and the stakes dramatically enough to oblige the United States to alter its existing airspace management arrangements and ROE toward a more overtly confrontational footing.[49]

The Syrian Su-22 was rendered fair game to be downed by the CAOC's standing ROE for such contingencies after its pilot intentionally crossed an agreed deconfliction line that had been negotiated previously between Gen. Stephen Townsend and his Russian counterpart, Colonel General Sergei Surovkin, that ran in an arc establishing a roughly twelve-mile buffer zone between Raqqa, where coalition air strikes were supporting SDF operations on the ground, and the area in which Syrian government forces were free to operate. After having first been observed by Commander Tremel to have dropped bombs on a rebel position north of that line, the F/A-18E flight leader fired both an AIM-9X infrared-guided air-to-air missile and an AIM-120 AMRAAM at the Su-22, the latter of which struck the Syrian aircraft and crippled it. The Fitter's pilot was then observed to have successfully ejected and parachuted safely to the ground.[50] By all subsequent accounts, both the CAOC and the most senior command elements in CJTF-OIR had consistently done a commendable job of staying ahead of such fast-breaking situations and crafting appropriate ROE tailored to any conceivable operational predicament, with particular due allowance for

engaged shooters to make the final call when rapidly unfolding circumstances warranted such a real-time decision on their part.

With specific regard to the flight of four Super Hornets that conducted the Su-22 shootdown, CENTCOM's CFACC at the time, General Harrigian, later remarked that "their execution was nearly perfect."[51] During a subsequent press interview he also unstintingly supported the flight leader's judgment call in deciding on his own to fire, pointing out that "when you're doing 400 knots and the adversary is coming at you at 400 knots, there is no time for someone in the CAOC to tell you what to do. They were going to be the ones that needed to make that self-defense decision."[52] It was later brought to light in a panel presentation by the four Super Hornet pilots during the Navy's annual Tailhook Association reunion in Reno, Nevada, the following September that the ROE guidance they had received had been crystal clear to all well before the event and that all four were well aware of the potentially adverse strategic consequences that any such decision on their part might produce. As one of the four Navy pilots recalled, General Harrigian "came out to the aircraft carrier not too many days prior to [the Fitter shootdown] … talking directly to the aircrews … saying 'you know my guidance—I have your back' … [and] emphasizing the point that you have to go out there and operate autonomously within the commander's guidance … and your decisions have strategic implications, so don't take those decisions lightly." A later informed assessment of that combat experience called it "a shining example of how mission command worked and why it was required. The [CFACC] made it clear that he trusted the officers who would be flying his missions."[53] To this point, however, the above-quoted U.S. Air Force F-16 pilot and tactics adviser subsequently added that "the same trust was not there during the earlier stages of the campaign in the air-to-ground arena. It evolved over time and as the strategic situation forced it to evolve."[54]

Other Kinetic Aerial Incidents

The Super Hornet's downing of the Su-22 followed an air-to-air encounter just nine days earlier, when a U.S. Air Force F-15E shot down an Iranian-made Shahed 129 drone on June 8 with an AIM-120 AMRAAM, after repeated coalition warnings for it to turn away had been ignored, once the drone appeared to have dropped a Sadid precision-guided bomb on a presumed rebel target near a U.S.-run training camp for FSA fighters

located close to the al-Tanf border crossing.[55] That event was closely followed by yet another air-to-air incident when a second Strike Eagle downed another Shahed drone in a similar situation on June 20. Commenting on these three incidents, General Corcoran remarked soon thereafter that "we're here to fight ISIS, but we're going to protect our forces from Syrian pro-regime entities…. If you're shooting at U.S. forces, we'll self-defend." In all three instances, the engaged American pilots made the final determination on their own to shoot within the parameters of their well-briefed and well-understood ROE. While the engagements were under way, the CAOC ordered all defenseless coalition aircraft such as tankers and airlifters to exit the now-hot Syrian airspace out of heightened uncertainty as to what the Russians or Syrians might do next.[56]

In the case of the June 8 downing of the armed Iranian Shahed drone, the tactical situation was further complicated by the presence of two Russian Su-27 fighters in the area, which raised an immediate question as to whether their pilots might wrongly interpret a missile fired from one of the F-15Es at the drone as a shot taken against them. That inherently dicey situation well underscored the importance of the CAOC's allowing the airmen on scene closest to the fight and with the best situation awareness to be given the greatest latitude for calling the shots as they deemed most appropriate within the agreed ROE. As Gen. Michael Holmes, commander of the U.S. Air Force's Air Combat Command, later remarked in that regard, after more than a decade of uninterrupted low-intensity U.S. counterinsurgency combat in Iraq and Afghanistan, "we've gotten used to waiting and asking the question and letting somebody else interpret those rules…. We will [now] be asking our guys to take more responsibility for interpreting the guidance they get from the commander in the area and the rules they are given to operate under."[57]

Amplifying further, General Holmes added:

> Every day, we are a second or two away from miscalculation between airmen [who] are flying on top of each other with advanced weapons, which could lead to an escalation in that conflict…. If you are flying along [the] deconfliction line and you are watching Iranian forces trying to come down and threaten the coalition forces you are supporting from Syria, you're illuminated by Russian and Syrian air defense systems, and it's hard to tell

> which is which…. If there's an airplane coming at my coalition forces, it's an airframe … that's flown by both the Russians and the Syrians. If it's a Russian airplane, it's probably just here to look at me and see what I'm doing. If it's a Syrian airplane, it might be there to attack those forces I'm defending. So it leads to split-second decisions at the point of attack for that young airman.[58]

General Holmes was quick to add, however, that American airmen were "doing great" in that uniquely challenging operating arena.

As Lt. Col. Jeremy Renken, the pilot who downed the Iranian drone that had been observed carrying two Hellfire-like air-to-ground missiles, later recalled, after visually tracking the drone for ninety minutes, the CAOC "came on the radio and gave me very clear permission that if you see this thing turn back at our guys … you make the call, you can shoot it." Renken added: "I think our leadership understands that sometimes to stay ahead of these very fast-moving engagements, you need to empower the airmen who are on the scene to make the call they need to make right away." Expanding further on that comment, General Harrigian added an important cautionary note that in such a conflicted situation with Russians commingled with Americans in shared battlespace, all of the involved airmen must understand that any decision they might make under pressure in real time "can quickly have strategic consequences, and I think our airmen are all keenly aware that once they shoot something down, that could cause a fairly significant change in the entire campaign."[59] Colonel Renken further noted: "When we saw the drone turn back toward friendly forces, we weren't waiting around for anyone's permission. We destroyed it." In a little-noted but important technical fact regarding the Syrian airspace situation, combat aircraft from Syria, Russia, and the United States and its coalition partners were all, at least in some circumstances, flying within a "no-escape" range of one another's air-to-air missiles. On this point of special concern, Renken said: "We can all engage each other. So it takes a lot of discipline and studying the nuance of a situation to determine: Was that an escalation?"[60]

After friendly Syrian ground forces reported via a radio call that they had been fired upon by the drone and that one of the missiles had struck the ground near one of their vehicles but had not detonated, Renken made a

second pass on the drone and saw that “lo and behold, one of the missiles is gone. At that point, we pretty much had him red-handed.” At first the CAOC advised Renken to hold his fire while another coalition aircraft nearby sought to deter the drone with “nonkinetic effects,” perhaps by means of electronic jamming. Reflecting on the experience afterward, Renken said: “We all knew that something like this could happen, but it just had not for a really long time, so I think there was a little bit of rust in the system on how to respond to it.” As for its net effect, it quickly dawned on the CAOC’s leadership and their CENTCOM overseers that there was a “need to empower the pilots in the cockpit to make decisions in a dynamic environment.” Evidently that lesson was readily accepted and duly assimilated by all, because the Syrian Fitter shootdown occurred just a few days thereafter. The following June 20, a different F-15E crew spotted another armed and threatening drone over Syria, intercepted it, and summarily shot it down within minutes.[61]

Russian combat aircraft also violated nearby Turkish airspace for extended periods on several occasions, prompting Turkey to down one Russian RPA that had crossed into its territory. In a well-reported subsequent incident along similar lines, a Su-24M piloted by Lt. Col. Oleg Peshkov and crewed by his weapons officer Capt. Konstantin Murakhtin entered Turkish airspace at 0924 on November 24, 2015.[62] The aircraft had ventured 1.36 miles into that airspace for just seventeen seconds when a Turkish Air Force F-16C fired an AIM-9X at it, bringing the aircraft down. Colonel Peshkov was shot dead by rebel forces as he was descending in his parachute, with Captain Murakhtin landing safely in open Syrian terrain and eventually being repatriated.

For their part, the Syrian rebels finally succeeded in downing a Russian jet in early February 2018 when a man-portable SAM fired by an al-Nusra militant struck a Su-25SM as it was conducting a low-altitude CAS attack with unguided rockets against anti-Assad forces in the town of Saraqib in rebel-held territory in northwestern Syria. This low-altitude attack was evidently an anomaly in Russian practice over Syria, since RuAF pilots were known to have been directed to stay above 13,000 feet at all times during their bombing runs in order to remain out of the lethal envelopes of enemy antiaircraft fire and short-range air defenses.[63] The Russian pilot, who successfully ejected from his crippled aircraft, was subsequently killed

during an exchange of small-arms fire with Syrian rebels after he had safely parachuted to the ground.[64] The Russian military command in Syria promptly responded with a targeted retaliatory attack in the area of Idlib Province where the jet was downed, reportedly killing thirty anti-Assad rebels. Notably, this combat response occurred *after* Putin had declared a victory for the Russian air presence in Syria at the end of 2017.

A Costly Russian Run-In with American Airpower

In a little-publicized but remarkably high-intensity combat showdown on February 7, 2018, a large contingent of Russian mercenaries and local allies of Assad attacked an American SOF outpost that was supporting a team of anti-Assad fighters in the oil-rich Deir al-Zour region of Syria. As was later reported by presidential envoy Brett McGurk, the attackers were seeking to capture an oil field held by SDF and American troops.[65] The most senior cognizant U.S. officials were continuously on the deconfliction hotline with their Russian military counterparts before, throughout, and after that armed confrontation in an effort to determine whether the force attacking the U.S. position was acting under official Russian military direction. After some twenty to thirty artillery and tank rounds fired by the attacking formation landed near a group of Kurdish Peshmerga fighters and the American SOF team that was embedded with them as advisers, the U.S. side counterattacked in force with heavy air and artillery strikes. As CENTCOM's air component commander, General Harrigian, later recalled in an interview with reporters, this "unprovoked, coordinated attack" by a dismounted force of between three hundred and five hundred hostile combatants was monitored in real time by coalition aircraft, including F-22s and MQ-9s, that were "overhead providing protective overwatch, defensive counterair, and ISR support." He went on to say that "Air Force joint terminal attack controllers embedded with the SDF called in precision strikes for more than three hours from aircraft and ground artillery, directing F-15Es, MQ-9s, B-52s, AC-130s and AH-64 Apaches to release multiple precision-fire munitions and conducting strafing runs against the advancing aggressor force, stopping their advance and destroying multiple artillery pieces and tanks." In wrapping up that candid synopsis of the shootout, he reiterated an oft-stated refrain of his that "we are focused on a single enemy —ISIS—[and] are not looking for a fight with anyone else. But as Secretary

Mattis said last week, 'if you threaten us, it will be your longest and worst day.'"[66]

A U.S. official later confirmed that the Russian mercenaries sustained combat kills "in the low triple digits," making that sudden and unanticipated showdown the single deadliest confrontation between Russians and Americans since the darkest years of the Cold War.[67] A subsequent editorial in *The Wall Street Journal* described the Russian attack as having been, by all signs, "a botched attempt to bloody the U.S. and intimidate President Trump into withdrawing from Syria once Islamic State is defeated."[68] A Pentagon spokesman confirmed more or less concurrently that the attack had been conducted by a "battalion-sized unit formation" consisting of several hundred experienced combatants and "supported by artillery, tanks, multiple-launch rocket systems and mortars." Not long thereafter, the Russian Foreign Ministry allowed that as many as "several dozen" Russians "may" have been killed or wounded during the confrontation but hastened to insist that "Russian service members did not take part in any capacity and Russian military equipment was not used."[69] Despite that totally unconvincing attempt at a formal denial, it was well known that Putin had made similar use of combat-experienced mercenaries in the recent past both in his forceful annexation of Crimea in 2014 and afterward in his failed attempt to dismember southern Ukraine, in both cases so as to maintain a facade of Russian deniability should any such nefarious activity go afoul of expectations. In tacitly acknowledging that transparent facade of Russian deniability, Secretary Mattis later testified before the Senate Armed Services Committee on April 26, 2018: "The Russian high command in Syria assured us it was not their people. And my direction to the chairman [of the JCS] was for the force to be annihilated. And it was."[70] As this latest little-heralded but indisputably portentous confrontation involving aggressive Russian behavior well attested, Syria had become yet another "arena for renewed great-power rivalry between the U.S. and Russia," in the words of one watchful observer. "The punishing U.S. air strikes that reportedly killed around 200 Russian personnel," he added, well dramatized "the potential for [such] rivalry in Syria to rapidly escalate into something more deadly."[71]

In an earlier such "fog-of-war" incident involving the Russian military presence in Syria, just to acknowledge that faulty assumptions and botched

initiatives worked to bedevil both sides in the often confused deconfliction arena, U.S. and coalition strike fighters nearly a year and a half before the incident reviewed above inadvertently killed at least fifteen Syrian troops on September 17, 2016, in a targeted area near Deir al-Zour. Before the attack began, CENTCOM took the extraordinary prior measure of first informing the Russian military leadership in the area of the projected coordinates for the impending attack since the targeted area was one in which coalition forces had not previously operated and would involve a large strike package of U.S., Danish, Australian, and British aircraft, including F-16s, A-10s, F/A-18s, and RPAs. The coalition's duty communicator that day, however, relayed coordinates for the wrong target area, suggesting that it would be nine kilometers south of the Deir al-Zour airfield rather than nine kilometers south of the city itself. Once the preplanned strike operations began, the Russian command post urgently called the CAOC back to report that coalition aircraft were attacking Syrian government forces. In the ensuing confusion, twenty-seven minutes elapsed before the attack was finally aborted, during which time the attacking aircraft managed to drop thirty-four precision munitions on Syrian troop positions. That mishap resulted from what one account later characterized as "a series of human errors in target development."[72] A subsequent formal report from AFCENT explained that "although [the coalition's] air strikes likely hit forces aligned with the government of Syria, [they] were conducted under a good-faith belief that the strikes were targeting Daesh [ISIS] in accordance with the law of armed conflict and the applicable rules of engagement" and that "the targets were misidentified based on a reasonable interpretation of the information available…. [and] there was not a deliberate disregard of targeting procedures or the rules of engagement." The CFACC, General Harrigian, added frankly in a postscript: "In this instance, we did not rise to the high standard we hold ourselves to, and we must do better than this each and every time."[73]

A Windfall Opportunity for Reciprocal Learning

One valuable benefit for Moscow that accrued from Russia's air involvement in Syria, and was possibly also a calculated supporting rationale for it, was the opportunity it provided the Russian intelligence establishment to get an up-close look at the combat application of some of the latest force-employment tactics, techniques, and procedures used by the

participating American and allied air contingents over Iraq and Syria. As one press account noted in this regard, the Russians "watched U.S. fighters bring their A-game [to Syria]. They followed fourth- and fifth-generation jets and paid attention to [coalition] tactics," all the while deriving operationally useful insights from the ongoing allied air operations. As the U.S. Air Force's deputy chief of staff for ISR, Lt. Gen. VeraLinn Jamieson, rightly remarked on this important point, "in the skies over Syria, it's really been a treasure trove for them to see how we operate."[74]

In yet another Russian move with a possible similar motivation, as Moscow's combat involvement in Syria was finally winding down, the Russian government sent two of its most advanced combat aircraft—Sukhoi's fifth-generation Su-57 would-be stealth fighter that still remains in long-plagued preproduction development nine years after its first flight in 2010—to the war zone to give it some exposure in a live combat setting as well as perhaps a fleeting opportunity for it to observe its longin-service counterpart, the U.S. Air Force's F-22, in real-life action inside shared Syrian airspace. Since the Su-57 is solely an air-to-air fighter, it would have had no useful role in what remained of Russian combat operations against the anti-Assad Syrian rebels. The deployment did, however, perhaps give the Russian aviation industry a fleeting chance to showcase its latest product in a real-world combat setting for whatever value such exposure might offer by way of encouraging future sales of the aircraft to potential foreign buyers.[75]

Just as Russia's lately established foothold in Syria provided the Kremlin an unprecedented catbird seat from which to observe from up close and duly learn from the latest in American air warfighting applications, however, that same Russian presence also opened up a similar window in return through which Western observers have been able to learn from the latest in the RuAF's force-employment capabilities and practices. One especially notable insight borne out by the Russian intervention has been that although most Russian munitions deliveries against anti-Assad targets entailed unguided bombs, some of those munitions offered greater accuracy than before thanks to the RuAF's exploitation of new computer-aided bomb release systems roughly analogous to the continuously computed impact-point capabilities that have long been fielded in all fourth-generation U.S. fighters. Russia's use of PGMs in Syria further revealed evidence of laser

and electro-optical guidance capabilities as well as the availability of GLONASS satellite-aided coordinate-seeking munitions broadly comparable to the American JDAM. As the most well-informed assessment to date of Russia's air operations in Syria recently concluded on this score, the fact that Russian fighter-bombers were able to obtain this capability while operating exclusively from a medium-altitude sanctuary "signals that the [RuAF] has attained a threshold proficiency in the air delivery of guided and unguided ordnance." In all, however, this appraisal further concluded that "while the introduction of advanced technologies and adjusted tactics have yielded real improvements in Russian Air Force battlefield lethality and survivability, these have not yet precipitated a fundamental shift in Russia's doctrine for employing airpower." More to the point, the assessment added that after all the evidence of Russia's air-warfare performance in Syria is duly accounted for, "Russian air operations exhibit progressive evolution but not paradigmatic change." Quite to the contrary, it added, such operations bear "less similarity to [U.S.-style] dynamic targeting than to the fire preparation of industrial-style warfare, little distinguished conceptually from the frontal aviation support of past Soviet and Russian conflicts stretching back to World War II."[76]

As much of a hindrance as Russia's unexpected intervention in Syria was in hampering the most effective prosecution of Operation Inherent Resolve, far more deleterious to the campaign's unimpeded conduct were the manifold planning and implementation missteps occasioned by the Obama administration's and CENTCOM's flawed going-in decisions that mainly conspired to make the effort such a prolonged and suboptimal application of force. That criticism remains valid, moreover, despite the fact that the vitally important delegation of TEA downward to lower ranks by CJTF-OIR's second commander, Lt. Gen. Stephen Townsend, USA, took place in the fall of 2016, well before the pivotal presidential election later that year.[1] The otherwise ill-advised decisions and strategy choices noted above included (1) the campaign's forced incrementalism to a fault throughout its first two years; (2) its draconian target-attack ROE that insisted for far too long on zero noncombatant casualties at virtually any cost; (3) a fundamental misreading of the enemy as a resurrected insurgency that was largely responsible for imposing and sustaining the ensuing strategy and those inappropriate ROE; and (4) a U.S. Army–led, ground-centric pursuit of what was essentially an air-only war for nearly two years, at least on the United States' part, that insisted on using American and coalition airpower almost exclusively to support the slowly rebuilding Iraqi Security Forces at the expense of also conducting concurrent and much-needed independent strategic interdiction attacks against ISIS's most important center-of-gravity targets in both Iraq and Syria from the campaign's first day onward.

Protracted Gradualism to No Useful Purpose

To begin with, notwithstanding the many praiseworthy aspects of CENTCOM's air war against ISIS at the execution level, the principal hallmark of OIR from a broader campaign perspective was its palpable *absence* of any such resolve for nearly two years, until senior leaders in both the Obama administration and in its successor regime under President Trump, with an abiding commitment to winning rather than just temporizing, finally seized the reins of campaign oversight in Washington. The war's lackluster start and continued slowness to show significant

progress for too long were, first and foremost, natural outgrowths of the Obama administration's insistence at first on imposing truly preclusive constraints on the most effective use of airpower, led by a president who showed every sign of refusing to countenance the more determined sorts of measures that might have ensured the earliest possible defeat of ISIS with the least loss of noncombatant Iraqi and Syrian lives. Instead of that bolder and more promising alternative, President Obama simply beseeched Americans to show "strategic patience" with his unenthusiastic embrace of his own self-inflicted new regional security predicament.[2] Regarding that alternative option, which was so studiously foregone during OIR's first year, a U.S. Air Force F-16 pilot who flew numerous sorties against ISIS during that year later recalled that "there definitely were constraints. We could have applied airpower strategically more aggressively across a wider area. True enough, we did keep Iraq from completely failing, and we gave them enough of a buffer to sort themselves out and start an organized campaign to reclaim their country and cities. That said, however, while we did enable Iraq, those initial constraints probably did cost a lot of lives in the long run by not hurting ISIS more at the outset of the campaign."[3]

For one thing, Obama's refusal at first to allow any U.S. ground troops to return to Iraq after his halting air effort against ISIS began in August 2014 instantly ruled out the early availability of a winning approach previously proven in Afghanistan in late 2001 of partnering small American SOF teams and JTACs with indigenous friendly ground forces—in this case the able Kurdish Peshmerga fighters in northern Iraq—to locate, identify, validate, and designate enemy targets in enough numbers for the daily air attacks to begin making a significant difference as soon as possible. The administration was also maddeningly slow to expand AFCENT's strike operations against ISIS from targets solely in Iraq to more lucrative targets in neighboring Syria, which had been the main locus of the Islamic State's center of gravity from the movement's very first days. It was not until September 23, more than a month into the slow unfolding of OIR, when the first approved coalition air attacks against ISIS targets in Syria finally took place. As the above-quoted U.S. Air Force F-16 pilot who had flown in the effort from its first day onward later recalled in that regard, during each sortie every day up to that point, "we would watch all sorts of [ISIS-related] activity going on in Syria that only we recognized. We even had been

expressly tasked to look at the Iraqi side of the border to provide nontraditional ISR," using the F-16's onboard targeting pod to gather electro-optical images of various areas of interest. "It was as though we were pretending there wasn't the other half of ISIS territory."[4]

Second, in clear contrast to most of the previous major U.S. and NATO air wars since Operation Desert Storm, the predominant characteristic of CENTCOM's effort against ISIS throughout President Obama's last two years in office seemed to have been principally a reflexive day-to-day exercise in mindless target servicing in support of no overarching strategic course of action or clearly defined goal. Instead, it largely entailed simply reactive air attacks against pop-up targets of opportunity in ones and twos, such as enemy vehicles and sniper positions, as they were detected by overhead ISR platforms. The U.S. Air Force's chief of staff at the time was of the personal conviction that this reflected not so much an ingrained bias against a more determined use of airpower per se but simply a president still "trying to live up to his campaign commitment to withdraw from conflict in the Middle East."[5] Whatever the explanation, as the United Kingdom's air contingent commander toward the war's endgame later recalled of that earlier phase, "we were guilty of hitting things we could find, but not necessarily hitting the right things."[6] In effect, in Anthony Cordesman's apt words, such largely reactive target attacks with no apparent broader guiding strategic rhyme or reason succeeded handily in turning "the classic description of pointless tactical activity in counterinsurgency from 'whack a mole' to 'whack a sand castle.'"[7]

By early January 2015, now five months into their continued tepid effort, the Obama administration and CENTCOM had *still* not marshaled the needed determination to begin targeting in earnest the lucrative oil infrastructure in Iraq and Syria that was providing ISIS with so much fungible wealth on a daily basis to fund its effective and still-expanding recruiting effort. Not long after the war's first month ended, the U.K. risk management firm Maplecroft reported that ISIS controlled six out of Syria's ten oil fields and at least four smaller oil fields in Iraq and was selling upward of 80,000 barrels of oil a day worth several million dollars through the regional black market. It was subsequently reported several months later that the would-be caliphate was continuing to seize energy assets in both Iraq and Syria, to a point where it now controlled most of the oil, natural

gas, electricity, and water resources in northeastern and eastern Syria.[8] As a result, said the Carnegie Endowment's vice president, Marwan Muasher, ISIS had become "the world's wealthiest and most financially sophisticated terrorist organization," with most of its revenue coming from its oil assets and with looting, local taxation, extortion and ransom payments making up most of the rest.[9]

While the Obama administration continued to temporize with its random bombing for more than a year to no discernible strategic effect, the still-robust jihadist movement was proceeding to create vast amounts of illicit income by selling oil on the black market from the oil fields that it controlled in Iraq and Syria, reaping some $500 million in 2015 alone to sustain its depredations as that ever more vibrant enterprise went largely untargeted by CENTCOM.[10] The apparent magnitude of this challenge led the first commander of CJTF-OIR, Lt. Gen. James Terry, USA, to confess that it might take "a minimum of three years" before the ISF and the Kurdish Peshmerga would be able to defeat the still-expanding ISIS caliphate just in Iraq alone.[11]

In the end, of course, that seemingly dire forecast at the time turned out to have been prescient, and it is entirely reasonable to suggest in hindsight that the United States probably could not have driven the ISF along toward battlefield successes much faster than it did. Yet the administration and CENTCOM spared ISIS the severe losses it surely would have sustained from a more intense and unrestrained air campaign, which allowed ISIS the gift of time for further securing its grip in Iraq and Syria. During an invitational visit to Washington, D.C., in mid-April 2015, now eight months into the administration's still halfhearted bombing, Prime Minister al-Abadi of Iraq complained that the United States was taking too long to conduct aerial attacks with enough effectiveness to be of much help to Iraq's slowly reconstituting troops in their own gathering fight against ISIS. Even that far into the effort, the Obama White House had still not approved the deployment of U.S. JTACs alongside Iraq's troops at the battle's forward-most edge to identify and designate enemy targets for more effective precision air attacks in the looming urban battles in which those Iraqi forces would soon engage in close combat.

In the face of that ever-growing need, the administration was said finally to be open to considering the possible option of training a special

cadre of ISF troops, including “training Iraqi JTACs,” according to one U.S. official, to call in air strikes against ISIS fighting positions and other targets of interest. However, informed experts in the Department of Defense rightly cautioned that the ultimate approval authority for any aerial weapon release would still necessarily remain with American forces and that Iraqis would never be allowed to serve as full-fledged JTACs, in considerable part because of their insufficient English language proficiency, plus the fact that they could not be trusted not to violate U.S. ROE and the law of armed conflict (LOAC) when applying American airpower. To this latter point, the above-quoted U.S. F-16 pilot, who spoke from personal experience in OIR, later remarked that he “wouldn’t trust an Iraqi JTAC even if he was trained by our own highly professional JTACs. After witnessing what the Iraqis did when they had [their own] airpower at their disposal, there is a high likelihood that he would ask me to target something that would result in a massive CIVCAS [civilian casualty] or ROE violation.”[12] In the face of that pronounced likelihood, the JCS chairman at the time, Gen. Martin Dempsey, said that he might recommend the use of American JTACs once ISF forces were ready to move in to retake Mosul.[13]

Whatever the case, during the first third of 2015, now nine months into CENTCOM’s bombing, only 1,859 strike sorties out of 7,319 reported to have been flown to date that year, a mere 25 percent of the combat sortie total, actually released a munition against an approved ISIS target. Commenting on the opportunity costs of this inhibited use of the coalition’s more than ample aerial firepower, the RAND Corporation’s Richard Brennan remarked that “by [CENTCOM’s] inability to use force in all but the cases where they’re sure of not having collateral damage, we’re ceding the advantage to ISIS in many situations.”[14] In a similar vein, retired Air Marshal Anil Chopra, an experienced Indian Air Force fighter pilot and former air commander, remarked at roughly the same time that “striking just three to four targets a day is not a real use of airpower.” Acknowledging that the coalition’s “asymmetry of airpower [was] a big plus” that offered CENTCOM in principle “a force-multiplier advantage [that] has begun … to produce results,” he echoed many frustrated and unimpressed American airmen who had been vocal critics of the Obama administration’s campaign approach from its very start when he insisted

that the effort "has to increase for real results…. An air campaign would achieve substantial results if applied with greater force."[15]

In a helpful amplification on this point, the CAOC's chief of combat plans during General Brown's year as CFACC stressed the criticality of achieving a proper balance between the quantity and quality of air strikes being delivered. On this point he said: "The real effective use of airpower is striking the right targets irrespective of numbers. They could be in the hundreds. They could also be just a single one. Nodal analysis is key, but it can be time-consuming. And at some point, there are some targets that may not be the 'perfect' targets but are definitely good enough now. We can't let perfection be the enemy of good enough. As General Patton often argued, 'a good plan violently executed today is better that a perfect plan next week.'"[16] To this important point, General Brown himself later added: "One area I was pushing for was target system analysis to get to the 'so what' and target more effectively. I didn't want to wait for a product that was six months or so in the making but instead wanted a 50-percent solution so we could start striking in a more deliberate manner."[17]

As CENTCOM's slow-motion bombing continued to drag on into the summer of 2015 with few visible gains toward reversing the continued expansion of ISIS's presence in Iraq and Syria, Anthony Cordesman remarked that the Obama administration had roundly "failed to show it [had] anything approaching a credible strategy for using airpower." He added that "the public data it [was] providing on the overall nature and effectiveness of its use of air strikes [seemed] to be little more than vacuous spin." The result, he concluded, was "an air campaign whose overall strategy and effectiveness [were] unclear, and that it [was] strong on [indicating] total sorties flown" while "weak in terms of [describing their] strategic effect." As for the continuing constraints on the effective use of airpower that were being insisted upon by Obama's White House, Cordesman added that the United States needed "to rethink the steady rise in limits to its rules of engagement and restrictions upon the use of airpower" since the nation could ill afford "to make avoiding *all* civilian casualties a strategic objective…. There is nothing humanitarian about saving a small number of civilian lives and opening whole towns … for prolonged occupation. There [also] is nothing humanitarian about prolonging wars, producing far higher net casualties."[18]

In addition, even after a year into the administration's still less than fully committed war against ISIS, the U.S. Air Force JTACs who had been paired with those American SOF teams advising indigenous ground troops in Iraq and Syria remained prohibited from being forward-deployed with those troops on the front lines, due to President Obama's continued unwillingness to have Americans back in the region in what might be construed as a "combat" role. Instead, they were consigned largely to sitting in CJTF-OIR's two rear-area strike cells in Iraq monitoring live video feeds from airborne RPAs and otherwise tied into the ground fight via radio voice communications from a distance, offering the best counsel they could to the target-attack approval authorities from those remote locations. Final authorization for any requested air strike still had to come from an American general officer either collocated with or on call by the JTACs.

Moreover, even after a year's elapsed time since the start of OIR, American pilots flying strike missions into Iraq and Syria continued to complain at times that they were being kept from dropping their ordnance on valid ISIS targets because of their inability to elicit a weapon-release clearance, thanks to the Obama administration's continuing insistence on zero civilian casualties. Of this most real and onerous "impediment to our ability to operate efficiently and effectively," recalled a senior CAOC principal during General Brown's time as CFACC, "the real delay was the vetting process outside the AOR for targets involving a high collateral-damage expectancy."[19] The deputy CFACC in the CAOC who assisted in overseeing OIR's initial aerial strike operations later affirmed this observation in noting that during the campaign's early days, "the CENTCOM JOC held some attacks at their level until Washington got comfortable with the strikes."[20] Said Representative Ed Royce (R-Calif.), chairman of the House Foreign Affairs committee regarding this self-inflicted constraint: "I don't understand this strategy at all, because this is what has allowed ISIS the [tactical] advantage and the ability to recruit." An unidentified senior AFCENT defender of the administration's restrictions could only reply lamely, and with no factual foundation whatever: "Our pilots understand the need for … tactical patience in this environment. The fight against ISIS is not the kind of fight from previous decades."[21]

Indeed, the doggedly gradualist and indecisive pace that characterized OIR throughout most of the Obama administration's conduct of it was all too reminiscent of the worst practices of the Vietnam War that were now being repeated by a successor generation of American leaders who seemed to have forgotten all the hard-earned lessons of warfare and strategy that were first borne out in Desert Storm and later validated by subsequent air campaigns, culminating in allied airpower's casebook performance in enabling the takedown of Saddam Hussein's regime in just three weeks in 2003. One example of that unthinking reversion to Vietnam-era practices was reflected in CENTCOM's persistent resort, in the absence of any more meaningful measures of merit, to such long-discredited metrics of combat performance as the daily numbers of sorties flown, munitions expended, targets struck, and enemy combatants killed (the much-maligned "body count"), when such figures merely indicated AFCENT's level of effort expended rather than any extent of actual progress. Another could be seen in the increasingly outspoken allegations from CENTCOM's rank-and-file intelligence analysts after more than a year into the effort that their superiors had repeatedly rewritten their unflattering fact-based assessments so as to spin a more positive portrayal of the campaign's progress up the chain of command.[22] For example, one account in September 2015 reported that "several dozen" intelligence analysts at CENTCOM's headquarters had formally complained that their reports on ISIS had been "inappropriately altered" by senior officials, with a similar account a year later reporting that critical appraisals of the Iraqi Security Forces had been "regularly … altered by top intelligence brass," with "words like 'slow,' 'stalled,' and 'retreat' … changed to 'deliberate' and 'relocated.'"[23]

In the end, it took more than a year of highly constrained and mostly reactive bombing of ISIS targets as they appeared sequentially to overhead ISR platforms and duly met the administration's strict no-civilian-casualties ROE for the White House finally to consider and then approve what the new JCS chairman, General Dunford, later described as "accelerants" that, he said, would "make a major difference" in the campaign's future performance and progress. Those reported "accelerants" included the deployment of a small number of American SOF teams into Syria to work with the indigenous anti-Assad fighters in the SDF as well as the concurrent introduction of a specially tailored SOF team called an Expeditionary

Targeting Force mentioned earlier by Secretary Carter to conduct what he described as “high-impact operations” in Iraq, including the location and targeting of ISIS leaders to be killed or captured. Only on December 14, 2015, when President Obama visited the Pentagon to be briefed on these and other initiatives, did Secretary Carter later indicate his final satisfaction that “we had the complete campaign plan [in hand] and the approval to carry it out.”[24] However, that was nearly a year and a half after the start of the administration’s mostly aimless and costly flail against ISIS up to that point.

Counterproductive Rules of Engagement

A second and closely related impediment to the air war’s effectiveness, from its hesitant start through most of the Obama administration’s subsequent oversight of it, was a uniquely stringent ROE regime imposed by a micromanaging White House that limited the number of targets available for aerial attack each day through its totally unrealistic reported insistence on zero civilian casualties being incurred by any coalition weapon detonation. As a result of that impediment, CENTCOM had far fewer targets eligible for attack each day throughout most of the prolonged effort than it had platforms and munitions available to engage them. That fact alone explains why just one out of four strike sorties flown throughout the effort’s first five months actually dropped bombs on ISIS targets, a pattern of combat ineffectiveness that was allowed to persist for far longer than it should have.[25]

Oddly enough, even to this day there remains an inconsistency in views held by the most senior U.S. officials who oversaw OIR regarding whether such a prohibitive ban against any Iraqi and Syrian civilian fatalities was actually on the books and enforced to impede CENTCOM’s air operations against ISIS. Perhaps most notably in this regard, the presidential envoy for the global coalition against ISIS under both Presidents Obama and Trump, Brett McGurk, insisted adamantly in mid-April 2019, well after the jihadist caliphate had been roundly beaten, that “there was never a ‘zero casualty’ standard once the campaign launched…. I was in all the meetings with the president from the outset of the campaign. To the extent strikes were limited in the beginning, the challenge was intelligence and target development….. But nobody ever said zero civilian casualties.”[26]

In an emphatic counterpoint to that expressed view, however, CENTCOM's deputy CFACC when OIR first got under way in early August 2014, Maj. Gen. Jeffrey Lofgren, USAF, declared categorically that "there was a requirement for zero civilian casualties…. Zero civilian casualties and no defined targets meant that each target required multiple days of coordination with the interagency [community] and with the Iraqis to get approval [and] prevented the air war from happening in the way some would have liked it to occur."[27] Why those putatively mandatory "multiple days of coordination" with the Washington policy establishment and with the Iraqis entailed anything but a self-imposed U.S. constraint on CENTCOM's freedom of action at the campaign's start entails a separate issue that is discussed in further detail later. But General Lofgren's clear confirmation of a zero-civilian-casualties ROE having been in effect from the first day of aerial strike operations onward was further attested to by the most senior American airman in Iraq at the start of OIR and for at least five months thereafter, Brig. Gen. Charles Moore Jr., USAF. On that important count, General Moore recalled: "I cannot confirm that the actual words were 'zero civilian casualties.' But I can confirm that with the authority to drop coming from a [U.S. Army] general officer watching [real-time] ISR feeds, … the ROE [that were in place and in effect at that time] definitely resulted in that outcome. If there was any chance of civilian collateral damage, the drop wasn't going to happen. Period."[28]

In fact, these most onerous ROE imposed on CENTCOM by the White House, called the Presidential Policy Guidance, were actually said to have been developed and handed down in 2013, well *before* U.S. air operations against ISIS had even formally begun. Those rules were said to have stipulated that any would-be future ISIS target proposed for aerial attack must actually threaten not just American security interests but actual *Americans*. They also must present a "near certainty" that any such bombing would kill no indigenous noncombatants.[29] Indeed, they were so restrictive in the target-attack options they allowed that any fair-minded neutral observer could easily be forgiven for concluding that they had been expressly designed to preclude virtually *any* truly meaningful and combat-effective kinetic operations. As the ranking U.S. Army general on the ground overseeing strike operations in Iraq at the campaign's start later reported in this regard, whenever he might request a specific ROE change

to enable a timely attack on a lucrative ISIS target, he "immediately … encountered almost nothing but pushback from senior headquarters elements. The timid political climate in Washington extended well into the senior military levels…. The overarching sentiment was that we 'shouldn't even bother trying,' because no one in Washington wanted U.S. bombs dropping in Iraq again, regardless of the reason, based on the potential perception that we'd be initiating another Iraq war."[30]

To make matters even worse, that U.S. Army two-star added: "We were [constantly] bombarded with anxious calls from the [CJTF staff, CENTCOM], U.S. Embassy, State Department, Defense Department, various intelligence agencies, … and a host of others…. They *all* wanted updates and reassurances that we were playing by their rules, as varied as those rules were."[31] In an effort to minimize the constraining effect of these exacting rules during the first month of CENTCOM's air effort against ISIS, when requesting higher-headquarters approval for a specific target attack, he would avoid referring to any proposed strike as part of an "offensive operation" and instead would characterize it as "potential humanitarian relief." As August 2014 drew to a close, he further noted, "we [still] had a very restrictive and time-consuming process to gain air strike approval."[32] A month later, with the air strike approval process "still long and laborious" and with the final approval authority still residing at the highest level within CENTCOM, General Pittard later recalled that "it was becoming clearer by then that the air strike authority had to be delegated to my command in Iraq."[33]

This unprecedentedly inhibiting ROE regime insisted on by the Obama administration, it bears further stressing, greatly exceeded the requirements formally stipulated in the LOAC, which insists that all reasonable measures be undertaken to avoid causing noncombatant casualties in warfare but also specifies that ensuring the lives of innocent civilians instantly becomes the responsibility of any enemy who would willfully use them as human shields. International law also expressly allows for the occasioning of civilian fatalities as unavoidable by-product harm in combat, even if knowingly caused, should an attack meet the law's reasonable standards of proportionality that require a target's military importance to be deemed high enough to justify the possibility, or even the certainty, of resultant civilian fatalities. Beyond that, as a former U.S. Air Force deputy judge advocate

general remarked in this regard, “ROE can carry with them a moral hazard of sorts [of their own] when they operate to prevent a strike that is actually permissible under international humanitarian law…. [Those] ISIS militants who might have been killed if [a proscribed] strike went forward can now live on to commit all kinds of cruelties [against innocent civilians].”[34]

With respect to OIR, however, as one discerning analyst well put it, the highly capable surveillance and strike platforms that were available to CENTCOM in principle throughout the Obama administration’s conduct of the effort were “tied up in obsessive platinum-standard target vetting” dictated by White House–mandated ROE that were “without a doubt the most obsessively restrictive of any air campaign ever fought by a U.S. coalition.”[35] Most final approvals for dynamic attacks even well into the campaign were granted not in the air component’s CAOC but rather by the general officer on duty in CJTF-OIR’s U.S. Army–dominated strike cells in Baghdad and Erbil. As a senior American airman recalled in this regard, “the approval level for strikes remained at a high level, and in many cases the approval authority was not located in the CAOC.”[36] In all due fairness to this unique reality of CENTCOM’s campaign against ISIS, however, the lead U.S. Air Force JTAC serving in the Army–led CJOC-B during the effort’s first year later hastened to insist that “this had to happen, because the CAOC had absolutely no ties into what was actually happening on the ground.”[37] That informed view was roundly seconded by an OIR-seasoned U.S. Air Force F-16 pilot whom that JTAC had controlled for many dynamic target attacks: “We don’t want those attack approvals coming from the CAOC when they are related to CAS requests. It was too disconnected from the ground fight as it operated at the time.”[38] In cases involving a particularly high likelihood of significant civilian casualties, a request for approval to drop or strafe would be forwarded by the involved strike cell in Iraq still further up the chain of command to a more senior general at CENTCOM’s headquarters, or even to senior civilian authorities in Washington in the most sensitive cases.[39]

For just one revealing instance of such higher-level micromanagement of the air war during its mostly lethargic first year, immediately after the live video feed from a Predator RPA strike against an approved ISIS target was monitored on one occasion in CENTCOM’s headquarters back in Tampa, Florida, a U.S. Air Force brigadier general there who had followed

the attack in real time phoned General Pittard, CENTCOM's most senior officer on the ground in Iraq, and said: "General Pittard, sir, we are concerned about how close that strike came to [a nearby] mosque. On something as close as that, I recommend you let us make the call from CENTCOM."[40] Offering yet another firsthand example of the pettiness to which such annoying outside harassment and nitpicking could devolve, General Pittard recalled how, during one requested target-attack experience, "we immediately ran into ROE problems from the CENTCOM staffers who were observing our drone feeds from Tampa. They asked question after question about the target, doubting our assertion that it was a suicide truck. 'How do you know the truck has *hostile intent?* Why do you think it's an ISIS truck? Are there civilians on board? Do you really want to waste valuable ordnance on a truck?'"[41] The most senior enlisted JTAC working in the BIAP strike cell under General Pittard's oversight during the air war's early phase, MSgt. Wes Bryant, USAF, bore informed and credible witness in the same coauthored memoir of his OIR experiences that known, identified, and targeted ISIS fighters could not actually be struck until, according to the standing ROE at the time, they could be positively determined to have "hostile intent." He went on to say regarding this militarily absurd stipulation that "sometimes we just had to sit and watch until [such] a determination could be made."[42]

In further reflecting on the deleterious effects of such well-intended but also unhelpful meddling from the home front, Sergeant Bryant added: "Frankly, we were all just sick of the sharpshooting [from campaign observers in the rear area]. Strike cell operations were a hundred miles a minute—extremely fast-paced and sometimes rolling from target to target and operation to operation. We simply didn't have time for armchair quarterbacking…. The critics either lacked understanding of our operating environment or simply didn't care. We made decisions based on priorities established from the president on down, and ill-informed criticisms of our operations often hindered our mission almost as much as the political constraints did…. In the end, the petty conflicts only detracted from our mission."[43]

Such recurring top-down impediments to operational effectiveness emanating both from CENTCOM and from higher levels in the kill chain that repeatedly hindered timely action against lucrative but often fleeting

ISIS targets led one American attorney, also an Iraq war veteran, to ask rhetorically: “Imagine if the United States had fought World War II with a mandate to avoid any attack when civilians were likely to be present. Imagine [General] Patton’s charge through Western Europe constrained by granting the SS [the paramilitary Nazi Schutzstaffel, or ‘Protection Squadron,’ that oversaw Hitler’s genocidal atrocities] safe haven whenever it sheltered among civilians.” This critic went on to say:

> It’s time to consider the true cost of America’s self-imposed constraints…. [American combatants] don’t just comply with the law of war. They go beyond the requirement of the LOAC to impose additional and legally unnecessary restrictions on the use of military force. Rules of engagement [in their most suffocating form] represent true war-by-wonk, in which a deadly brew of lawyers, politicians, soldiers, and social scientists endeavor to fine-tune the use of military force to somehow kill the enemy while ‘winning over’ the local population, even as the local population is in the direct line of fire.

Such unrealistically determined ROE, he concluded, “not only create an additional incentive for enemy law-breaking; they ultimately lead to mass-scale civilian casualties at the hands of unconstrained jihadists.”[44]

In this excessively and absurdly exacting political and legal environment, allied pilots flying combat missions into Iraq and Syria were routinely required to have their attack requests wend their way up through a maddening gauntlet of inescapable clearance wickets before they could receive final approval to strike a legitimate target. As one U.S. Air Force A-10 pilot complained frankly of this onerous constraint early on in a private e-mail to a friend:

> I’ve never been more frustrated in my career. After thirteen years of the mind-numbing low-intensity conflict in Afghanistan, I’ve never seen the knife more dull. All the hard lessons learned in Vietnam and fixed during the first Gulf war have been unlearned again. The level of centralized execution, bureaucracy, and politics is staggering…. In most cases, unless a general officer can look at a video picture from a UAV [unmanned aerial vehicle] over a satellite link, I cannot get authority to engage. I’ve spent many hours staring through a targeting pod screen in my cockpit,

> watching ISIS sh**heads perpetrate their acts until my eyes bleed, without being able to do anything about it. The institutional fear of making a mistake that has crept into the central mindset of the military leadership is endemic. We have not taken the fight to these guys. We haven't targeted their center of gravity in Raqqa. All the roads between Syria and Iraq are still intact with trucks flowing freely. The other night I watched a couple hundred small tanker trucks lined up at an oilfield in ISIS-held northeast Syria…. It's not uncommon to wait several hours overhead a suspected target for someone to make a decision to engage or not. It feels like we are simply using the constructs built up in Afghanistan, which was a very limited fight, in the same way here against ISIS, which is a much more sophisticated and numerically greater foe. It's embarrassing.[45]

Amplifying still further on the inanity of this self-imposed leadership restriction, another U.S. Air Force F-16 pilot recalled that during his time while flying against ISIS from September 2015 to April 2016, not a single air-delivered munition was approved for release in Iraq or Syria without the express consent of a supervising brigadier general or higher, creating a constant impediment to prompt responsiveness that "made for a lengthy kill chain." Invariably, he recalled, any pilot who saw what appeared to be a valid target and radioed a request to drop on that target first had to await the targeting cell's contact "with a JAG [judge advocate general, or military lawyer], a collateral-damage officer, and a few field-grade officers to ask them to then ask the general in another room" for approval to proceed with the attack. This, the pilot reported, made for "frustrating sorties where countless times I was scanning what was referred to as a hostile town with no civilians and where any movement of either individuals on foot or of vehicles was guaranteed to entail hostile ISIS forces. Many times we would find targets in these towns late in the evening, and strike cell officers decided 'not to wake the general' or, on one occasion, the general was at a cake-cutting ceremony for a promotion party, so the strike was cancelled…. We were handcuffed until the O-7 [brigadier general] was sold."[46]

Continuing further with this recollection, the same F-16 pilot noted how the approving generals would become "obsessed with UAV FMV [full motion video] footage, where they would quarterback the entire war from

the UAV feed. The general would never approve a drop unless the UAV feed showed ‘nefarious activity,’ usually the suspected ISIS fighter having a weapon on him, and no UAV overhead on station to ‘positively identify’ the suspected target meant no bombing of it.” To make matters worse, this real-time video imagery

> made the generals think they were capable of better weaponeering target solutions than the fighter pilots and JTACs involved. On one occasion, the U.S. Army general in charge of all strikes near Erbil in northern Iraq in 2015 and 2016 stated that “fighter pilots are like monkeys. I just need to tell them when to bomb and I will control the rest.” This was absolutely terrible to watch, because many times the general’s choice of bomb was 100-percent wrong for the target involved. But he had it in his head that it was right, and there was no talking him out of it. He also was quoted multiple times as calling the Air Force “just expensive artillery for me to use.”[47]

Reporting later in a similar vein regarding such ill-informed Army attitudes when it came to the most appropriate applications of modern airpower, another F-16 pilot who flew two combat rotations in OIR recalled disparagingly how “the Army tends to ask for specific systems first rather than for desired effects, as in ‘we need a two-ship of F-16s to support this convoy movement’ rather than ‘we need the effect of longterm ISR from time X to time Y.’ When we would offer solutions that didn’t involve the specific system they’d asked for, we were told by our chain of command that we didn’t have a choice.”[48]

To be sure, there was an important difference that bears noting here between U.S. Army generals in CJTF-OIR’s strike cells making insistent but often unskilled TEA calls and senior airmen with extensive prior target-vetting experience serving in similar situations on the ground. As one U.S. Air Force colonel and A-10 pilot who served in Erbil as the deputy JACCE toward the campaign’s end recalled in this regard:

> I was often able to insist on better weaponeering solutions than the aircrew on station for the following reasons: I’m at 1 g and 0 knots without a fistful of airplane and a wingman to look out for; I’m looking at the F-16’s targeting-pod feed on a 52-inch highdefinition screen instead of on his four-inch screen; I also

> have ten other feeds on the wall that show other looks at the target or other aspects of the fight; I have a trained warrant officer running software that uses well-established weapons data, can generate mensurated coordinates, and has information on all the structures in the area in question; I have a Google Earth product that overlays with all previous strikes all enemy intelligence, including electronic intelligence, and civilian sightings and pattern-of-life information on [the proposed target], and finally, because of the TEA construct, 1 bear the legal and ethical responsibility for the strike.[49]

With that important qualification duly noted, however, one must also ask how often and to what extent such well-endowed decision-making expertise was vested in senior officers rendering such judgments from CJTF-OIR's U.S. Army–led strike cells, especially when they were not airmen with such unmatched credentials. One can also ask the even more pertinent question as to whether such stringent TEA constraints originally intended for managing a bona fide COIN war were really even appropriate to what was arguably a very different and far more demanding sort of enemy challenge that ISIS presented.

In this regard, the lead JTAC in CJOC-B during the campaign's first year later recalled that there had been more than a few instances in his own personal experience in which both pilots and JTACs had legitimate complaints to air with respect to what he portrayed as "the undue restrictions" noted above. Expanding further on this count, he remarked:

> The most significant aspect of this was at the one- and two-star level. What made our strike cell so successful in 2014 was that General Pittard sat with us. As the war normalized going forward, the TEAs were often detached in rear areas. So for strikes that demanded a one- or two-star TEA, it took time even getting a hold of them, let alone briefing them…. And many of them were so worried about making a mistake and getting fired because of it that they held back when they shouldn't have. In many cases, their lower staffs were the biggest blockers. I had many instances of requests for strikes not even going up to the TEA because some major below him decided it wasn't worth getting the general. General Pittard's strike cell was different in that he was

> right there with us and also coordinating directly with Iraqi generals himself and with forward commanders while they were in the fight.[50]

It hardly helped, moreover, during the air war's mostly floundering and hesitant first year for senior leaders to have regarded and dismissed such legitimate complaints from frustrated line operators as those quoted above, as one key CAOC deputy later did, as having merely reflected "tactical-level views of a strategic problem showing [those operators'] limited understanding of the broader strategic relationship with Iraq."[51] Such condescending, out-of-hand dismissals unfairly demeaned the actual situation awareness and ingrained professionalism of more than a few seasoned U.S. and allied airmen at the working level who were trying their best to be mission-effective in their combat tasking under uncommonly exacting political constraints. They also stood in sharp contrast to later willing AFCENT leadership expressions of grateful appreciation of their pilots' full cognizance of the potential strategic consequences of their real-time decisions in the heat of battle, as was best exemplified by Lieutenant General Harrigian in the immediate aftermath of the Syrian Fitter shootdown in mid-June 2017. As a U.S. Air Force F-16 pilot who conducted many strikes against dynamic targets during the campaign's mostly directionless first year later recalled on this count: "We felt this keenly during both of my rotations to OIR. A lot of interactions with the CAOC and leadership figures there led to the distinct impression that they thought we didn't understand what we were doing. This was more than a little ironic, since they never actually saw the battlefield and I flew over it every day and worked with all the different players in the campaign. This led to a distrust of the CAOC in fighter squadrons that has yet to be excised."[52]

For his part in all of this, CENTCOM's first air component commander for OIR, Lt. Gen. John Hesterman III, USAF, had already been in place for more than a year when the administration's reluctant bombing of ISIS first began in August 2014. By all outward signs, he had become so fully bought into the White House's prohibitive rules for granting target-attack approvals and with CENTCOM's flawed strategy for the ensuing campaign that he actually challenged the truthfulness of his own pilots flying combat missions when they openly chafed at the lost target-attack opportunities that

they had experienced throughout its first year. Ten months into the still mostly ineffectual air war, he pushed back hard in a widely quoted interview with the media against the rising tide of complaints from the most outspoken of those pilots by countercharging that “the thought that we are observing large numbers of Daesh [ISIS] terrorists and not killing them anywhere is fiction.”[53] He further declared: “The thought that guys are waiting around watching the enemy do damage and we’re not doing anything about it? That is patently false.”[54] To that combative claim from on high, the above-quoted U.S. Air Force F-16 pilot who actually flew daily combat sorties during the campaign’s first year later dismissed it categorically as both “dead wrong” and reflective of “a large disconnect between the AFCENT leadership and CAOC with what we were actually witnessing in the first part of OIR.”[55]

The campaign’s first CFACC also denied insistently that having American JTACs deployed forward alongside indigenous friendly forces—something the Obama administration had adamantly continued to prohibit—might offer a critical difference toward increasing the air war’s effectiveness: “U.S. and coalition JTACs are always value added,” he conceded. He then asked rhetorically: “Would it be helpful? Probably. Is it necessary? Not so far.”[56] The fact that American JTACs on the ground figured so centrally in facilitating the ISF’s successful fight to free Mosul a little more than a year later would appear to have roundly vitiated that assertion, to say nothing of having raised a fair question as to how much more effective CJTF-OIR’s air war might have been had they been introduced even earlier. Even the most senior U.S. Army general on the ground in Iraq overseeing aerial strike operations against ISIS at the time later complained that “we couldn’t use our best resources for identifying targets and directing strikes—JTACs embedded with ground troops on the battlefield. Our JTACs were [instead] in the strike cell … far removed.”[57]

As for General Hesterman’s tenacious defense of the administration’s go-slow approach, a multitude of credible voices soon arose and begged to differ. To quote one dissenter of special note, the recently retired former Supreme Allied Commander for Europe, Adm. James Stavridis, USN, replied pointedly regarding that approach: “I think it’s become abundantly clear that what we’re doing is not working, and I think it is time to ramp up a couple of different things…. Number one would be increasing the

lethality and frequency of the bombing…. I'm sympathetic to the view that, if we don't have to deploy any more U.S troops and we can roll back the Islamic State, that would be terrific. But that's not my assessment, and I don't think it's an assessment that is supported by the facts on the ground." Echoing that strong dissenting judgment, a Middle East expert with the American Enterprise Institute, Michael Rubin, branded CENTCOM's still-meager bombing effort almost a year into it as having been "more symbolic than effective."[58] For his part, Admiral Stavridis added that any truly effective campaign against ISIS would need, in addition to more intensive air strikes, more accelerated arms shipments to the ISF, Kurdish Peshmerga, and anti-Assad SDF, and possibly also an expanded footprint of as many as ten thousand supporting American troops on the ground in Iraq and Syria.

Also regarding CENTCOM's continued insipid level of effort as reflected in its overly parsimonious air strikes more than a year into it, even Obama's own respected former undersecretary of defense for policy, Michele Flournoy, complained two months after that lame response was voiced from the CAOC that the administration's efforts to combat ISIS continued to "convey a sense of creeping incrementalism … that simply will not turn the tide given ISIS's size, spread, and momentum."[59] In a similar spirit, a RAND assessment that appeared not long thereafter called for expanded attacks by CENTCOM against known and fixed ISIS infrastructure targets and for associated "measures to increase the speed and accuracy of the targeting cycle," suggesting as well how "designating additional target-engagement authorities" and inserting coalition forward observers and JTACs on the ground to designate enemy targets and call in precision air attacks against them would markedly increase the effectiveness of the command's effort against ISIS. That assessment further rightly remarked that CENTCOM's chosen measures of effectiveness for characterizing the effort's progress "should not be simply the numbers of fighters killed or the number of buildings and tanks hit, but whether [such] actions cripple the organization's ability to command, control, and sustain its operations."[60]

As if to add even further insult to injury, when CENTCOM's combat aircraft were finally cleared to go after large numbers of ISIS-operated oil tanker trucks in what the command dubbed Operation Tidal Wave II (Tidal Wave I having been the allied air attacks against Nazi-controlled oil fields

in Romania during World War II), its leaders at first ordered coalition pilots to conduct a precision leaflet drop on the 116 trucks in the initially targeted convoy some forty-five minutes before the impending attack, according to CJTF-OIR's U.S. Army spokesman, Colonel Warren, "to minimize risks to civilians." The leaflets that were dropped read: "Get out of your trucks now and run away from them. Warning: Air strikes are coming. Oil trucks will be destroyed. Get away from your oil trucks immediately. Do not risk your life." That advance notification instantly removed any element of surprise from the impending attacks, thanks to its questionable underlying presumption, perhaps originating from strategically clueless civilian staffers in the Obama White House, that "while [the trucks] are being used for operations that support ISIL, the truck drivers themselves [are] probably not members of ISIL, they're probably just civilians." To that totally unsubstantiated premise, Colonel Warren added: "We're not in this business to kill civilians, we're in this business to stop ISIL."[61]

Granted, one can fairly ask in hindsight how many of those ISIS-commandeered oil trucks ultimately escaped destruction as a result of the leaflet warning. One can also fairly ask whether the drivers of the trucks were really committed ISIS jihadists or simply were hapless innocents who had been pressed into serving ISIS in order to earn a living. But those two questions raise the larger and more important strategic question of whether striving for the avoidance of possible civilian casualties in such a manner simply on an uninformed guess outweighed the more pressing urgency of bending every reasonable effort to maximize the eradication of ISIS's revenue-generating potential as quickly as possible in an ongoing war that should have been understood as anything but just another routine COIN operation. A U.S. Air Force F-16 pilot who took part in that effort later recalled the ethical dilemma he faced during nearly every such target attack: "The real question goes back to what are we doing here? Are we here to win having reasonably tried to avoid civilian deaths, or are we here to make the conflict last longer by giving the trucks a chance to leave?"[62]

A particular vexation for the coalition's strike approval authorities in this uniquely exacting ROE regime was the challenge of coping with small groups of suspected enemy "squirters" who would attempt either to sneak furtively or to race through friendly battle lines on foot, on motorcycles, or most often in cars, and in many cases armed and ready to fight to the death

if confronted. The crux of this vexation entailed first determining and then ensuring, before they could be engaged, that they were indeed ISIS combatants rather than just hapless civilians seeking to escape a lethal war zone. In any developing circumstance requiring such a prior determination, a request to engage such potential targets, whether from the air or by friendly ground forces, would first be forwarded up the chain of command to a designated "battle captain" in the most cognizant U.S. Army–led strike cell in Iraq. The receiving "battle captain" would then pass the request first still further up the chain of command to the next level, where an Army lawyer would vet the request for due compliance with the LOAC and offer his ensuing judgment to the final decider, who in the end would ultimately approve or disapprove the requested attack, only rarely rejecting the lawyer's recommendation.

As yet another case in point here, the institutionally imposed friction that routinely occasioned so many delays in getting timely target-attack approvals sometimes required as many as four to six *weeks* of the CAOC's constant monitoring of a potential deliberate target before any approval to attack it could be elicited. Even in the less burdensome case of requested dynamic attacks in response to real-time air support requests (ASR) from friendly indigenous forces in direct contact with ISIS jihadists, which in the end accounted for around 85 percent of all target attacks in CENTCOM's more than four-year-long air war against ISIS, any such strike for nearly two years into the effort likewise had to be approved by a brigadier general or someone of even higher rank in the kill chain. That fact led one reporter who visited the CAOC in September 2016 to conclude that OIR had become "the most tightly managed air campaign in the history of warfare." Even two years into CENTCOM's fight against ISIS, its third air component commander, Lieutenant General Harrigian, said with respect to the ever-exacting ROE for ensuring noncombatant immunity: "Most times we're [still] trying to drive it to zero civilian casualties." Commenting on this most preclusive hindrance to effective targeting ever experienced in American combat practice, the former air commander for Operation Desert Storm in 1991, Gen. Charles Horner, USAF (Ret.), remarked from the home front with more than a hint of resigned dismay: "It's a very convoluted system for fighting a war. We're fighting with one arm tied behind our back."[63]

A Consequential Misreading of ISIS

When President Obama first ordered a U.S. military response to the mounting scourge of ISIS, a fundamental failing on CENTCOM's part from the very start of its campaign planning was to misunderstand this latest emergent foe as just a resurgence of the same Islamist insurgency that the command had fought, ultimately successfully, in Iraq for nearly a decade rather than duly recognizing it as the very different phenomenon of an avowed state-in-the-making, with all the targetable vulnerabilities of such a distinctly different entity. It naturally followed from that initial misassessment that as the organization tasked with taking on and defeating ISIS, CENTCOM reflexively chose to address it in the same long-habituated way in which it had conducted its previous wars in Iraq and Afghanistan. The campaign's second assigned CFACC, General Brown, later recalled that "CJTF-OIR was definitely Iraq-focused, and this may have been based on its leadership's familiarity and comfort with the Iraq situation based on [their past] experience with Operation Iraqi Freedom."[64] Lieutenant General Deptula added in this regard that the CJTF's chosen approach offered "a perfect example of fighting a new war like the last one. CENTCOM did not realize that ISIS was not an insurgency but rather a proto-state that required a very different approach than the one that had become so ensconced in Tampa and that they chose to apply against ISIS because they didn't know any other approach. For their part, the airmen in the CAOC at the time either could not or did not offer an alternative strategic approach."[65] To this important point, the U.S. Air Force F-16 pilot quoted above added how, from his perspective, the approach taken by CENTCOM at the campaign's start "reflected how we ignored the Syrian half of ISIS for the first six weeks. Closing your eyes doesn't make something disappear. As for the CAOC, they were in the same boat. My experiences with them at the campaign's outset reflected an entity that was obsessed with the process rather than with the desired result."[66]

By having thus wrongly interpreted the essence of ISIS from day one onward as that of a reborn insurgency rather than of a fundamentally different embryonic state with distinct and targetable state-like characteristics, CENTCOM stepped out smartly on the wrong foot by violating, from the very outset, one of the most abiding principles of warfare long before articulated by the renowned Prussian strategist Carl von

Clausewitz, who stressed the criticality of avoiding the worst possible planning error of confusing the war one is actually in with the war one *believes* one is in or would prefer to be in. As Clausewitz wrote in this regard as far back as 1832, “the first [and] most far-reaching act of judgment that the statesman and commander have to make is to establish the kind of war on which they are embarking, neither mistaking it for, nor trying to turn it into, something that is alien to its nature.”[67] In a remarkable and doubtlessly unwitting confirmation of a total failure on CENTCOM’s part in this most crucial respect, that organization’s since-retired commander, Gen. Lloyd Austin, freely acknowledged, in looking back on the OIR experience, “the importance of gaining and maintaining an accurate appreciation of the ever-changing operational environment.” But he baselessly and wrongly insisted to the very end of sustained fighting that he genuinely believed “we got the counter-Islamic State group campaign more right than wrong in our strategy, operational approach, and force redesigns.”[68]

In fact, by virtue of its observable nature and its openly declared intent to become a thriving Islamist caliphate, ISIS was in no way just another garden-variety insurgency of the sort that its predecessor, AQI, had been during the strife-ridden years before the surge of 2007 that followed the three-week major combat phase of Operation Iraqi Freedom in early 2003. On the contrary, it was a de facto state in gestation that sought the gaining and holding of terrain as an enduring feature of its existence. Even before the formal start of OIR, ISIS had already acquired many of the distinctive trappings of a state. That fact should have mandated on CENTCOM’s part the needed urgent target system analysis and subsequent more aggressive air offensive against key strategic equities that such a state-like opponent demanded from the campaign’s first days onward. For example, ISIS possessed and fought with heavy weapons and other high-end military equipment like the U.S.-made Abrams tanks that it had expropriated from the imploded post-Saddam Iraqi army. It also had assimilated and made effective use of sophisticated warfighting skills from disaffected units of that same failed Iraqi army. Although it lacked an air arm and high-technology air defenses, it fought ably otherwise on behalf of an ideologically driven movement that was, for all intents and purposes, a vibrant state in the making.

Moreover, as an emerging conventional army rather than a dispersed network of terrorists conducting uncoordinated hit-and-run attacks, ISIS also constituted a massed force with exposed lines of communication that, once identified and duly approved and targeted, were eminently susceptible to sustained and unrestricted attacks from the air. In clear contrast to CENTCOM's faulty assumption from the campaign's start that ISIS was just a re-embodiment of the earlier Iraqi insurgency that it had fought to a standstill not so many years before, a central reality of this latest emergent threat was that "what looked like a military offensive by a ragtag army of ISIS irregulars," as defense writer James Kitfield later observed, "was actually the result of an unprecedented alliance between Salafi jihadists and former Sunni Ba'athist military officers whose networks reached deep into corrupted Iraqi Security Forces," and with ISIS "exercising state-like dominion over much territory in Iraq and Syria, with all its economic and energy resources."[69] Writing in a similar vein, Harvard University's Stephen Walt noted that ISIS "has … sought to build the rudiments of a genuine state in the territory it controls" and that, although it calls itself a caliphate, "a territorial state is what its leaders are [actually] running." He then quoted approvingly a German journalist, Jürgen Todenhöfer, who rightly noted in 2014 that "ISIS is a country now." He also said, equally correctly, that it "has proved surprisingly capable at providing security and basic services in its territory … and fighting on the ground against weak opponents."[70]

Still another perceptive analyst noted how so many outside observers "assume that the current challenge [posed by ISIS] is simply to refocus Washington's now-formidable counterterrorism apparatus on a new target," when in fact "ISIS is not al-Qaeda" or any other manifestation of a classic insurgency. Taking sharp issue with Obama's passing remark that ISIS is "a terrorist organization, pure and simple," this analyst countered in early 2015 that the movement "boasts some 30,000 fighters, holds territory in both Iraq and Syria, maintains extensive military capabilities, controls lines of communication, funds itself, and engages in sophisticated military operations." She therefore concluded: "If ISIS is purely and simply anything, it is a pseudo-state led by a conventional army. And that is why the counterterrorism and counterinsurgency strategies that greatly diminished the threat from al-Qaeda will not work against ISIS." She went on to point out that the Obama administration and CENTCOM were

continuing to rely wrongly "on a form of counterinsurgency" that was "depending on the central government in Baghdad to regain its lost legitimacy, unite the country, and build indigenous forces to defeat ISIS"—all approaches that "were developed to meet a different threat" when what was actually needed was an approach by the administration and by CENTCOM to put their ample tools "in the service of a strategy for fighting an enemy more akin to a state actor."[71]

In light of that well-substantiated baseline fact, the engagement and extirpation of an opponent as virulent and vile as ISIS demanded *not* the sort of highly restrictive ROE aimed at winning the hearts and minds of an indigenous civilian populace, as would have been appropriate enough in a COIN war against a true insurgency, but rather the most ruthless application of force majeure possible within the outer bounds of the LOAC aimed at destroying such a robust but also exposed and vulnerable enemy as quickly as possible. Lieutenant General Deptula well expressed this missed imperative in late 2014 when CENTCOM's effort against ISIS was still just getting started:

> The strategic problem posed by [ISIS] is different than that in Afghanistan. So the similarity of the minimal application of airpower, along with excessive micromanagement by the CENTCOM bureaucracy, is a symptom of not recognizing that this is a different strategic problem. After all, ISIS isn't simply a collection of terrorists. The group holds territory and manages an inventory of heavy military and civilian equipment. There's a reason they call themselves the Islamic State. So instead of worrying about individual targets, CENTCOM needs to run a wider, more freeranging air war where more targets are hit more quickly.[72]

To this correct assessment as far as it went, however, a U.S. Air Force F-16 pilot who actually flew combat sorties during campaign's first halting months and who worked closely with the Air Force JTACs being directed by CJOC-B rightly added the important qualification that "at the same time, it was important that the indigenous forces in the region achieve a ground victory on their own. Yet another American invasion may not have been the right move, and I personally believe it was a positive thing that we enabled the Iraqis, Kurds, and SDF rather than barreling in with the U.S. Army a

third time. That part took time, although I agree with General Deptula that during the same time, we also should have been prosecuting a wider, more free-ranging air war." Expanding further on that apropos and seminal point, Major Balzhiser added: "Despite our self-imposed national constraints, we still accomplished some important strategic objectives and kept ISIS from winning a complete victory in Iraq. But the campaign's initial months indeed could have been more effective on a wider strategic level."[73]

Yet CENTCOM's U.S. Army leaders, inured as they had become to a decade's worth of slow-motion COIN warfare in Iraq and Afghanistan, naturally chose instead to revert to their long-habituated ways by interpreting and engaging ISIS as simply a resurrection of the former insurgency that they had been most acclimated to fighting for nearly ten years. On this count, Brig. Gen. Charles Moore, USAF, who had served as a senior director in the U.S. Office of Security Cooperation in Baghdad from the time ISIS first arose through the initial months of OIR's sporadic and ineffective bombing, later recalled that CENTCOM's U.S. Army leadership assessed this latest problem they had inherited as simply "a continuation of the wars they grew up fighting in Iraq and Afghanistan, when in fact [the operational and strategic challenge posed by ISIS] was *vastly* different. And they didn't listen to airmen who were trying to make that case."[74] Given that shared ingrained viewpoint among CENTCOM's Army chieftains still trapped in corporate groupthink from their lingering memory of their most recent experiences, it was perhaps only natural that the command's first CFACC for the war, Lieutenant General Hesterman, would also have so readily accepted this flawed assessment when he declared, with scant factual grounding during an interview in early June 2015, that ISIS "is neither a state nor an established army."[75] Perhaps it was not yet quite either at that particular moment in time, strictly speaking, but it was most assuredly on a determined path toward becoming both.

Nevertheless, as the U.S. Air Force's chief of staff when the war against ISIS first began recalled five years later, not only CENTCOM's U.S. Army principals but also the U.S. Air Force leadership in AFCENT and virtually the entire remainder of the American defense establishment had "failed [at seeing ISIS for what it really was]. It was not as though CENTCOM was ignoring others who had it right early on. [Lt. Gen.] Bob Otto [General Welsh's deputy chief of staff for ISR in the Pentagon] was one of the first to

see ISIS in that light."[76] This freely acknowledged U.S. leadership failing in hindsight was perhaps all the more indicative of the myopic view of ISIS that America's defense principals had gradually formed over time in the wake of their having coped with nearly a decade of prepossessing COIN warfare in Iraq, at a time when alert outside observers like those quoted above had such little apparent difficulty in sizing up ISIS as the unique jihadist state-like phenomenon that it was in fact from its very start.

In all events, it had to have been from an acquired mindset based on such a fundamental misreading of the enemy that CENTCOM's first CFACC ten months into the campaign could still explain away the draconian ROE that had occasioned the inordinately low number of daily air strikes against ISIS compared to more effective previous U.S. air wars by insisting patronizingly that those airmen who had complained about the campaign's slow pace "frankly haven't been in a fight like the one we're in now."[77] What that ill-informed view from on high failed to internalize and duly appreciate was that from the bombing's very start, CENTCOM had been inappropriately applying a planning template designed for winning indigenous hearts and minds in a COIN war to a totally different class of enemy that needed to be dealt with instead as a self-avowed state possessing territory, an infrastructure, an economy, a central nervous system, a targetable leadership, and the beginnings of a capable conventional army.

As one assessment rightly noted in this regard even before the first month of CENTCOM's halting effort against ISIS had ended, this particular enemy demanded "a war rather than a piecemeal offensive" as well as "the kind of commitment that goes beyond anything that [the president and CENTCOM] seem willing to carry out."[78] Core ISIS equities, according to this well-founded critique, should have been identified and prioritized even before the campaign began, with a view toward determining their importance to the overall functioning of ISIS as a self-sustaining organization rather than by the overly simplistic criterion of CENTCOM's mere ability to find and attack them. Had the ISR and strike assets available to CENTCOM been used to their fullest potential in first geolocating, identifying, assessing, and then systematically striking the most vital nodes of the enemy's center of gravity in Iraq and Syria from the campaign's first day onward, such an approach might well have substantially shortened the

nearly four-year-long effort and thus reduced the number of civilian fatalities that were ultimately incurred in both countries as a result of ISIS's willful depredations. As Lieutenant General Deptula remarked on this point, instead of targeting the enemy's fielded forces in ones and twos with a predominant emphasis on battlefield tactics, CENTCOM's effort should have been focused more keenly "on the opponent's leadership, decision-making process, and mechanisms of command, control, management, communication, infrastructure, and key systems that [enabled it] to exist as a functioning organization."[79]

By the same token, another still-serving U.S. Air Force general and career fighter pilot who had followed the war closely from his posting in the Office of the Secretary of Defense likewise remarked in early 2016 that, as an evolved and still-expanding regional "proto-state," ISIS was "absolutely targetable at an operational and strategic level, which we were late to act on."[80] One can fairly ask, of course, whether such a more finely focused and determined air war against ISIS's known and targetable centers of gravity in Raqqa and elsewhere from the campaign's very start in early August 2014 would have sufficed to drive the already entrenched ISIS forces out of major urban areas in Iraq like Ramadi, Fallujah, and Mosul any faster than actually occurred in the end. But there is little room for doubt that such a more intensified and better-directed effort on such a scale would have significantly inhibited the additional gains that ISIS made toward further tightening its grip in both Iraq and Syria in the ensuing years before the campaign finally achieved a successful win in early 2019. This entirely plausible alternative possibility was later well visualized by a U.S. Air Force F-16 pilot who flew numerous combat sorties against ISIS at the very start of OIR: "I think we probably could have made it there, even in the early days, had we been truly committed to doing it from on high and had we treated ISIS as a proto-state rather than just as a resurrection of AQI. The effort simply wasn't focused enough early on … because we didn't yet really have a clear desired endstate that had been articulated by the national leadership."[81]

In the end, this corporate failure on CENTCOM's part to characterize the enemy and the combat challenge it presented most correctly from the campaign's very start had far-reaching adverse consequences for the effectiveness of its would-be air war. As the chief of the CAOC's Combat

Plans Division more than a year into the bombing later recalled, “there was a misprioritization in assets and effort. The result was that initially there simply wasn’t much to target, even if the effort to do so had been there. Without a thorough target system analysis that determined the proper focal points upon which to apply pressure, both kinetic and nonkinetic, there simply wasn’t a consolidated plan for where to target to achieve the maximum effect.” More tellingly yet, this reflective Air Force colonel added that that needed and long-overdue response “didn’t occur until General Brown was in the [CFACC’s] seat. He forced the intelligence community, initially just in the CAOC but soon thereafter across our entire global intelligence enterprise, to share the burden and the needed information. That emphasis dramatically increased its output for target development, both in quality and quantity, aligned with his belief in attacking the key nodes that provided the greatest support to ISIS, namely, the organization’s holdings of POL [petroleum, oil and lubricants] and money.”[82]

A related misjudgment on the Obama administration’s and CENTCOM’s part in their selection and prioritization of enemy targets chosen for attack was arguably their determination to undo ISIS’s gains in Iraq *before* turning to the jihadist movement’s more vital strategic heartland that had taken root in Syria after the withdrawal of the last remaining U.S. troops from Iraq at the end of 2011. Clearly, as presidential envoy Brett McGurk later pointed out, the strategy to take down ISIS developed by the administration “focused on enabling local fighters to reclaim their cities from ISIS and then establish the conditions for displaced people to return.”[83] He further confirmed the administration’s conviction that in order best to accomplish that declared goal, “working with the Iraqis” would be indispensable: “We needed a ground force. The Iraqis were the ground force.”[84] In a similar vein, the first deputy CFACC for OIR, Maj. Gen. Jeffrey Lofgren, USAF, noted the overarching influence of what he called “a significant requirement to engage with Iraqi military and civilian leaders to prepare them to take the fight to ISIS” in determining the overall campaign plan that ultimately came together. He also stressed—revealingly, as it turned out—that “the strategy as directed by the [U.S.] political leadership was to involve the Iraqis, which is why in the early days we did not do much bombing, as we were trying to get the Iraqis back on their

feet."[85] Yet there was no compelling reason in principle, apart from the Obama administration's inherent unwillingness to go to the mat with all due determination, why coalition combat aircraft otherwise sitting idly on their ramps could not have been used against ISIS interdiction targets in both Iraq and Syria with potentially decisive results while the Iraqis were getting "back on their feet."

Moreover, going after ISIS "through Iraq," as General Lofgren characterized the administration's chosen approach, was a conscious strategy *choice*, not an inescapable operational and strategic necessity. There were equally or even more promising alternative courses of action that were available and that begged for consideration from the campaign's outset other than the one that the administration and CENTCOM ultimately settled on, most notably starting out with the greatest weight of effort concentrated instead on targetable ISIS equities in Syria. In this regard, Lieutenant General Deptula persuasively argued in mid-2016 that the administration's chosen prioritization of campaign objectives had put things "precisely backwards. The U.S. core security interest in the region," he said, should have been "to deny the Islamic State a sanctuary [from which] to export terrorism—not to act as a surrogate for Iraq's military." He further also compellingly maintained that from the very start of its combat response against ISIS, CENTCOM should have crafted and applied a comprehensive strategy intended to "rapidly and effectively decompose [that entity] as an operating system."[86]

To be sure, it bears remembering that the effective use of airpower early on, as the above-quoted American F-16 pilot later pointed out, eventually helped to preserve Iraq "so that there actually would be something there when this whole mess ended." To that extent, he added, "some of the early applications of airpower in Iraq were strategically necessary and the entire reason we got involved in the first place." However, he went on to say, "once we halted the ISIS advance on Erbil and on Sinjar mountain in early August 2014, we should have violently and quickly gone after ISIS in both Iraq and Syria"—and immediately, "not almost two months later, and not in such a piecemeal way. Our first day in Syria was emblematic of how we got it wrong. It was great that we finally did it. But we barely made a ripple in the pond with all the firepower we had available."[87]

With respect to the desirability of such an early push against ISIS in Syria with full force, senior Obama administration and CENTCOM officials went to great lengths to insist after OIR ended that any such putatively superior proposed course of action was, for all intents and purposes, beyond reach at the campaign's start, due to any number of proclaimed complicating factors. For example, in countering any suggestion that "we had a ton of options to move more rapidly in Syria," presidential envoy McGurk argued that, in truth, "we had nothing to work with in Syria and very little fidelity as to what was happening on the ground" in that country during OIR's initial halting months.[88] Presumably also for the same reason, General Lofgren added that "there was no way to target ISIS in Syria at the start [because] they were embedded in the cities." Yet, quite apart from the fact that they were also widely proliferated throughout Syria's open desert and thus eminently engageable by precision air attacks, a point to which we will return presently, the initial deputy CFACC for OIR was most assuredly on solid ground in noting that "there was not a targeting process in place to support interdiction operations against ISIS" since "the Joint Targeting Process [JTP] … when we started was broken." As a result of that inescapable constraint, he went on to recall, AFCENT's targeting "to go strategically against ISIS … was very slow to develop," and "it took over a year to get all the agencies involved to get serious about target development and approvals."[89]

To this point, the U.S. Air Force F-16 pilot quoted above who repeatedly experienced the practical downside impact of this institutional failure at the campaign's sharp end later concurred that the JTP "was indeed broken," adding:

> We had every incentive to fix it in this campaign, but it took a while. If anything, we should learn that our normal JTP templates and ATO cycles will not fit every conflict or situation. So we should be ready to adapt them quickly. This goes back to my comment earlier about the CAOC being more concerned about the process and less about the result. As flexible airmen, we should be willing to adjust processes when it is obvious that they don't quite work in a given situation … and believe me, it was obvious. We are clearly not as flexible as we always say we are as an institution.[90]

That said, however, viewed with unsentimental hindsight, these and related accounts of the administration's and CENTCOM's chosen approach to engaging ISIS cannot help but strike any outside observer with no personal stake in that approach as convenient post hoc excuses far more than as persuasive explanations for the suboptimal target engagement options pursued against ISIS that ultimately occasioned the campaign's costly prolongation. In commenting later on those many excuses, Lieutenant General Deptula agreed that such constraints were indeed real enough but pointedly added, in a more critical and judgmental vein, that "how one deals with them [or, alternatively, fails to do so] is a sign of capability to influence and skill in coping with the fog and friction of warfare."[91]

On this count, Major General Moore, also quoted earlier, who had served in the State Department's Office of Security Cooperation in Iraq during the rise of ISIS and at the time OIR first began, likewise concurred that "there may have been little targeting data about ISIS in Syria" during the campaign's initial days but then rightly added that acknowledging that fact "misses the entire point" of what should have been viewed and duly addressed as an almost uniquely lucrative opportunity for AFCENT's air attacks to have been more mission-effective during the campaign's first months. As he recalled:

> We were using virtually all of our ISR stacks on top of Iraqi towns trying to support a very atrophied Iraqi army and without American JTACs (but with the U.S. Army being happy because they got to control it). Those assets could have been over Syria instead building our situational awareness and targeting data. Moreover, ISIS vehicles of all types flying the black ISIS flag were driving through the Anbar desert delivering everything from fighters to food and bullets to Iraqi cities. There is not an easier target to hit than an enemy flying his flag…. Using our ISR assets to figure out where ISIS was basing itself and loading up munitions and supplies would have made following them from Syria and then targeting them out in the middle of the Anbar desert, with no collateral damage, quite easy. Once we finally got permission to drop in Syria, it would have been even easier. The

> bottom line: poor strategy resulted in poor resource allocation and results.[92]

The U.S. Air Force F-16 pilot already quoted at length who actually flew combat sorties at the start of OIR later bore compelling firsthand witness to Major General Moore's observation:

> The targets were out there for us to kill. I saw them day after day flying to and from Jordan. No one listened to us. True, we were unsure going into Syria at the time, because it was new and different. Not having anyone on the ground made commanders squeamish, because that's what they'd been used to for fifteen years. But had we acknowledged ISIS for the proto-state entity that it was, and they were blatant about it, we could've moved swiftly on these targets of opportunity despite all the other issues with JTP and ground fidelity.[93]

Expounding further on this major lost opportunity during the campaign's first two years, this pilot added incisively how the nation's leadership "both civilian and military early on did not apply historic lessons and established doctrine. A lot of OIR was new in terms of tactics and operations, with strike cells and dislocated TEA for dynamic targets and the enemy being a pseudo-nation terrorist group. But the overall strategy should not have been a new one. It simply should have been: Find their centers of gravity and hit them quickly and accurately."[94] He then went on to say:

> Part of OIR was admittedly trying to get the Iraqis back on their feet. But at the same time, we should have pulverized ISIS leadership and cash flow at the beginning. Or at least run interdiction on all the supplies coming in from Syria. More to the point, we should have had a separate, distinct AI [air interdiction] campaign targeting identified ISIS targets further from the FEBA [forward edge of the battle area]. We later got there, but we lost some serious opportunities up front with blatantly identifiable targets (black flags painted on trucks, large black flags over compounds) in which we could have done some serious damage and saved lots of lives. We flew over such targets in Syria day in and day out with bombs on our jets, reported them to everyone we could, and still we did absolutely nothing about it. I even asked to

monitor the town for a while to start a strike approval process, but no one approved anything.[95]

To be sure, in all fairness to the intrinsic reasonableness and likely logic behind the Iraq-first emphasis that eventually drove CENTCOM's prioritization of its aerial targeting, it bears recognizing that both its leaders and the most senior civilian security officials in the Obama administration no doubt saw the indispensability of rebuilding the confidence and capacity of the ISF as quickly as possible if there was to be any prospect for achieving longer-term stability in the region. On this count, the RAF's air contingent commander assigned to the CAOC in 2017 suggested that such an assessed need "may well have been prejudicial to prosecuting a different air campaign [that is, one that stressed breaking the back of ISIS in Syria first], but it was probably vital for any hope that Iraq might [successfully fend off any eventual emergence of] a Daesh 2.0 in the near future."[96] In this same vein, former U.S. Air Force chief of staff Gen. Mark Welsh later recalled that the administration's and CENTCOM's principal interest "was in recovering the population centers controlled by ISIS, and the feeling in CENTCOM was that this was tough to do with airpower only."[97] Those points duly noted, however, one can also fairly suggest that by having planned and overseen a land-centric campaign aimed principally at rebuilding the badly atrophied ISF as a first order of business and by having misapplied AFCENT's substantial ISR and strike assets primarily as wholly dedicated air "support" for that still mostly noncombat-ready Iraqi ground force in lieu of going after ISIS's throat concurrently in both Iraq *and* Syria with a more air-centric assault on its most vital strategic vulnerabilities, CENTCOM's U.S. Army leaders were fighting the wrong war.

An Atrophied CAOC for High-Intensity Targeting

At the start of CENTCOM's initially sporadic air effort against ISIS, the CAOC's targeteers and strike planners naturally relied at first on their long-ingrained habits that had first coalesced and then taken such deep root during the preceding decade beginning in early 2004, when AFCENT's operational nerve center had shifted from a daily routine of supporting high-intensity bombing on a major scale around the clock to a far less hectic routine of servicing more episodic ASRs as they emanated from allied ground units in connection with the far lower-intensity COIN operations that had since become the new norm in Iraq and Afghanistan. Informed and

guided by that by-then familiar new mindset, they were able to conduct with relative ease what the CAOC called dynamic targeting, whereby its air assets would respond to suddenly arising battlefield situations by relying on information provided by overhead ISR platforms and by engaged friendly ground troops as those challenges arose.

Once the bombing expanded into Syria, however, where there were no coalition SOF units and JTACs in place on the ground at the start of combat operations, CAOC planners were forced to resort instead to so-called deliberate targeting, a very different and by then mostly forgotten art form that called on previously compiled intelligence files for fixed targets of potential significance and that then determined the most appropriate targeting priorities and chose the most appropriate aim points based on the target's assessed value and importance to the enemy.[98] As his chief of combat plans later recalled in this regard, "deliberate targeting was what General Brown was pushing us back toward. He'd moved ISR collects westward [into Syria] to find targets farther into enemy-held land. Once the ISR soak was pushed west and was used less for supporting on-call CAS and more for target development, deliberate targeting became the mainstay for airpower use and fed the ensuing interdiction effort."[99]

In addition, as General Brown himself later recalled regarding this challenge, minimizing civilian casualties was only one of several impediments that were hindering more effective day-to-day targeting from the CAOC. Upon arriving at al-Udeid more than ten months into CENTCOM's air effort against ISIS, he quickly discovered that CJTF-OIR was still using the same timeworn "model of dynamic targeting [developed for Afghanistan] based on CAS/overwatch and HVI [high-value individual] hunting" as opposed to "deliberate targeting [and] air interdiction," the latter of which would have been both more appropriate and better suited to this evolving campaign's most pressing strategic needs. General Brown added on this point: "It took some time to move the ball more toward deliberate targeting, but I don't think it moved far enough, fast enough. Bottom line: Our approach to targeting to include focus by the intelligence community and ISR apportionment was slow to come around."[100]

In an informed affirmation of this capability shortfall that had gradually evolved in the CAOC after the three-week major combat phase of Operation Iraqi Freedom ended in early April 2003, Brig. Gen. Clint

Hinote, USAF, who had headed the CAOC's Strategy Division in 2007 as a lieutenant colonel, recalled that the fact that the CAOC had not been called on to prosecute any so-called deliberate targets of any significance in the years that followed "meant that a lot of our expertise and experience had left. We [had become] used to fighting counterinsurgencies where almost all targets are dynamic, so there weren't ISIS target folders on the shelf like there were in Desert Storm. We had to figure out who was going to develop the targets, which was not an easy task, given the complex command-and-control structure that CENTCOM [had] put in place…. Once we figured this out, it took some time to get the intelligence analysts up to speed so they could produce valuable products."[101] Still another insidious development that helped occasion the atrophying of the CAOCs target-development muscles, as was later recalled by AFCENT's vice commander in mid-2003, "was the migration of target development and approval up to headquarters CENTCOM. The CENTCOM JIC [Joint Intelligence Center] became a sucking chest wound for talented intelligence folks from all services as it grew to upwards of a thousand personnel."[102]

A second reason for the early shortage of actionable ISIS targets instantly available for being attacked, General Hinote went on to note, was that "we did not pivot a lot of ISR over to Iraq and Syria in a timely manner. We were still heavily engaged in Afghanistan, and a lot of our ISR was tied up in counterterrorist operations around the world. So the initial allocation of ISR was limited…. As one might expect, the demand for ISR in Iraq and Syria is insatiable, and we [were still at the time] only meeting a fraction of the demand."[103] As was later recalled by the most senior U.S. Army general on the ground in Baghdad at the start of OIR, "Afghanistan was allocated [by CENTCOM] *fifteen times* the number of drone lines that we had in Iraq."[104]

Yet a third limitation on the number of actionable targets at any given moment, General Hinote added, was the since-evolved application of ISR in target assessment to such a pronounced degree by 2014 that for the first time in his experience, "full-motion video [FMV] soaking [transmitted down in real time from RPAs orbiting above any target area of interest] has become a prerequisite for approval of any deliberate strike…. Whenever we wanted to hit a preplanned target with any chance of [causing] collateral damage, we needed to move an FMV asset to look at the target for a certain

number of hours. Since there are only a few FMV assets available for retasking, this severely limited the tempo of operations."[105] Evidently not noted and duly pondered in this most recently evolved execution conundrum was how the arrival into the hands of operators of a new ISR capability—in this case, on-call FMV as a matter of standard practice—had all of a sudden, and perniciously, become an ironclad *precondition* for engaging a target, even when, in many cases, it may not have been absolutely essential. After all, in previous U.S. air wars from Desert Storm in 1991 through NATO's campaign for Kosovo in 1999, such a capability was not routinely available to strike planners in anything like the extent to which it is within ready reach today. Yet that absence in no way inhibited effective deliberate targeting all the same.

To make matters worse yet, General Hinote went on to say, having been acclimated solely to honoring ASRs from engaged U.S. troops in mostly individual and episodic firefights in Iraq and Afghanistan for an entire decade since mid-2003, the CAOC's staff at all levels had steadily lost over time the increasingly unused and highly perishable skills required to plan and conduct a full-blown air war in which a wider variety of enemy targets is struck with both simultaneity and much greater intensity around the clock from one day to the next. "Very few in the [U.S.] military today," he concluded, "have the [requisite] experience in planning and executing a comprehensive air campaign—their experience is only in the control of individual strikes against individual targets."[106]

Amplifying further on this point, the U.S. Air Force's chief of staff at the start of OIR, General Welsh, later recalled that both the Air Force and the broader American defense community by that time "had transitioned to an HVT [high-value targeting] mindset and structure," with the greatest emphasis now placed on "target certainty and minimizing collateral damage," an approach that would never suffice for a higher-intensity air war servicing two thousand or more target aim points a day. Although he worked hard to make due concern over this devolved situation a serious Air Staff discussion topic starting in early 2013, even before the initial onset of OIR, "the biggest problem," he said, "was that we had cut much of our deliberate targeting expertise during the 40-percent force reduction between 1992 and 2013."[107]

In part, as General Brown's chief of combat plans later explained, this predicament was simply the natural result of an absence in the region any longer of the needed wherewithal for the sort of targeting scheme that drives the common perception of what a "full-blown" air war in fact entails. Such a targeting scheme, he said,

> is dependent, naturally enough, on targets. Without targets, and more important, without the correct ones, there really isn't a foundation for an air war. Once our ISR assets were positioned properly and the priority was placed on nodal analysis, the air war against ISIS could finally begin in earnest. That being said, this was not a target-rich environment like we had in Operations Desert Storm and Iraqi Freedom. Our enemies knew that when they massed, they became more readily identifiable and we'd destroy them wholesale. They had adapted for this fight, and so the concept of what an 'air war' entailed was consequently also different.[108]

That fact, one should point out, perfectly accounted for why, viewing the OIR experience in retrospect, it was so important that AFCENT hit known and identifiable ISIS interdiction targets en masse from the campaign's very start in August and September 2014. As things in fact turned out during those first halting months, however, all the more so given the complete absence of a more determined administration strategy with a clearly defined path forward and endstate in mind and with more permissive target-attack ROE, one report concluded that "the U.S.-led air attacks … have not … even begun to achieve success [at least from a big-picture and long-term strategic perspective]. In both Syria and Iraq, ISIS is [still] expanding its control rather than contracting."[109]

After nearly a year of AFCENT's having freely acceded to the ground-centric approach that CENTCOM's Army leaders had chosen for OIR, however, even the most experienced airmen flying daily combat missions in the campaign seemed to have progressively lost the incentive to advocate for air-centric solutions that two decades of earlier effective air-dominated warfare from Operations Desert Storm to Iraqi Freedom had once inculcated in them. Instead, they seemed to have almost naturally acceded to CENTCOM's long-predominant land-centric mindset, as was exemplified by one B-1 squadron commander who explained in early 2016

how his aircraft was able to provide “continuous, steady support for the ground forces that moved forward.”[110] It was, of course, all well and good that U.S. and coalition airpower was effectively harnessed in that manner to enable and support an Arab ground coalition in successfully retaking territory in Iraq and Syria that had been lost to ISIS. But what was clearly missing both in the CAOC and at more senior joint-service levels at the campaign’s start was an approach to the application of airpower in a necessarily ground-dominated combat undertaking that saw an essential place for air interdiction and strategic targeting from OIR’s first day onward.

To be sure, with no U.S. troops involved in direct combat with ISIS and with no embedded U.S. SOF personnel or JTACs yet forward-deployed on the front lines with engaged friendly ground forces, one might fairly ask what was exactly “ground-centric” about the way OIR had evolved up to that point apart from the fact that CJTF-OIR was commanded by a U.S. Army general. A simple and telling reply to any such question would be that that same U.S. Army oversight of the campaign’s initial planning and conduct had naturally but, in this case, also inappropriately consigned coalition airpower into a purely supporting role for a still largely deficient ISF ground force meant to wage an envisaged land counteroffensive against ISIS that did not actually get under way in earnest until more than two years into the campaign. In the interim, much-needed air interdiction against ISIS’s core equities in both Iraq and Syria was held back for far too long as a result of that inhibiting supporting role to which coalition airpower had initially been reduced by CJTF-OIR’s U.S. Army leadership.

Looking back today on AFCENT’s more than four-year-long combat involvement against ISIS, now that the would-be caliphate has been essentially eliminated, one would think that it should have been within the CAOC’s legitimate bounds of discretion even early on for it to have sought to reduce at least at the margins, simply by self-initiated command fiat, some of these lingering COIN-habituated operational inefficiencies from years past without having first had to ask “Mother, may I?” to CJTF-OIR’s U.S. Army commander, to CENTCOM, or to higher leadership authority. It could easily enough have done so, one might also surmise, while remaining at the same time fully compliant with the controlling ROE handed down by

that same higher authority. As one F-15E instructor pilot and flight leader suggested by way of a notional example in this regard:

> What I would advocate for is cockpit TEA for targets outside of urban areas. The CAOC can control the targets being struck through the DT [deliberate targeting] process. That would allow us to be much more efficient in finding and then expending weapons unused in CAS on worthwhile targets. Right now, we have to call the DT cell and see if they have anything available. Often the targets they have are too far out for our fuel, but I could have made it work had I known about it earlier. We often get told that target approvals won't be available for a few hours, or even more frustrating, they expire in an hour but I can't be there for 90 minutes. We would still use the same CIVCAS [civilian casualty]-reducing measures, the DT cell would own target nominations, and we would be more effective.[111]

It should never have been too late for such bottom-up nominations of tactical-level options from the ranks to have been tried and implemented by the CAOC as deemed workable and appropriate. As it was, however, a contemporary of that Strike Eagle pilot who flew the F-16 in OIR during its first year later recalled with dismay how "we would see valid targets, call the DT cell, and they would say 'thanks, have a good flight' and clear us off. Such lost opportunities abounded, and the unwillingness of the CAOC and their handlers at CENTCOM to prosecute targets nominated by fighter aircraft was astonishing to me."[112]

Furthermore, it bears remembering and owning up frankly as well to the fact that at least throughout the first halting year of OIR, there was the ever-present possibility that any such commonsense initiatives proposed by line airmen in the interest of more effective air employment would sooner or later have been detected and perhaps countermanded by CJTF-OIR's in-theater U.S. Army commander, if not by even higher authorities at CENTCOM or in the Obama administration. As Maj. Gen. Peter Gersten, USAF, who had served early on from May 2015 to May 2016 as CJTF-OIR's first two-star deputy commander for operations and intelligence later recalled candidly on this score: "We were handcuffed, obstructed, called back, and collared the entire time I was there. When we did attempt to execute sound strategic operations, we were often times told no. Or if we

did so without asking permission, I was called directly from D.C. and questioned, sometimes verbally lashed."[113]

A Suboptimal CJTF Command Arrangement

As already suggested above, it was arguably a command failure of monumental proportions for CENTCOM to have so badly misinterpreted ISIS from the campaign's start as a resurrected Islamist insurgency rather than as a fundamentally different state-like opponent featuring targetable state-like characteristics that constituted both the movement's center of gravity and its greatest vulnerabilities. That fundamental mis-judgment by CENTCOM's leaders naturally drove them to opt for an inappropriate COIN strategy with which they were most familiar and to apply equally inappropriate COIN-focused ROE for the bombing of proposed targets, no doubt spurred on significantly in that regard by top-down insistence on the same from the Obama White House. As the campaign's first priority, that ill-advised approach sought to minimize indigenous noncombatant fatalities rather than going with all due dispatch for the jihadist movement's throat.

The nontrivial result of that flawed choice of strategy was a needlessly prolonged and costly air war, both in dollar outlays and wasted scarce equipment service life for the coalition's participants and in incalculable but doubtless severe added suffering by rank-and-file civilians in ISISheld portions of Iraq and Syria. On the latter count, it ended up occasioning far more displaced Iraqi and Syrian citizens, more destroyed urban and rural infrastructure, and more hapless civilians killed, mostly at the marauding hands of ISIS, than most likely would have occurred in a shorter war driven by more right-minded priorities. Inescapably, and not for the first time in recent American combat experience, CENTCOM's and the Obama administration's effort against ISIS for more than two years saw the misplaced humanitarian goal of civilian casualty avoidance take complete precedence over the more urgent imperative of the promptest possible mission accomplishment.

Those leadership shortcomings and their entirely predictable suboptimal results, however, were themselves natural outgrowths of what was arguably an equally fundamental suboptimal call by CENTCOM's four-star U.S. Army commander—namely, his having opted in the end to assign a U.S. Army infantry lieutenant general rather than his similarly ranked U.S. Air Force air component commander to head up CJTF-OIR for at least the

initial phase of the looming fight against ISIS, even though he surely must have known that any such endeavor would entail air-only combat, at least on the part of any involved U.S. forces, for a year and probably more at a bare minimum. Yet, despite that knowable fact, General Austin and his eventually chosen U.S. Army subordinate commander for CJTF-OIR nonetheless proceeded to frame the looming fight against ISIS as principally a *ground* war, with CENTCOM's air component being tasked solely with providing dedicated air "support" to that mostly still only anticipated land-warfare effort yet to come.

In commenting later on the foregoing observation, the lead U.S. Air Force JTAC assigned to CJOC-B during the campaign's first year maintained, in a reasonable alternative argument, that, as it actually played itself out, OIR "was not an air war [but] an air strike campaign in support of an Arab ground coalition" and that, in light of that fact, "if anything, the better choice [to oversee the campaign] would have been an Army special-operations general, because it was largely special-operations task forces who ran the ground fight and coordinated the targeting and air strikes in support of it."[114] Be that as it may, viewing the campaign experience in hindsight as it actually unfolded, however, at the time the prospective chain of command for OIR and the approach ultimately chosen for conducting it were first being seriously considered in CENTCOM, it should have been immediately clear to all that there were no indigenous friendly ground troops either in Iraq or in Syria who were anywhere close to being ready to grapple with ISIS in sustained head-to-head land combat. In a clear post hoc confirmation of that largely unheeded fact, when General Austin finally presented his envisioned concept for such a ground-centric campaign to Secretary Carter for the latter's formal approval six months later, Carter instantly saw that Austin's plan "was entirely unrealistic at that time" because it "relied on Iraqi army formations that barely existed on paper…. Building the kind of Iraqi force that could retake Mosul would ultimately take the better part of a year."[115]

Remarkably, as CJTF-OIR's first land-component commander later freely acknowledged, this revealing fact had been fully known from the very start of campaign planning both by General Austin and by the CJTF's eventual assigned commander, Lieutenant General Terry, who as early as mid-August 2014, just after the first air strikes against ISIS had begun,

"were convinced the Iraqis would not be capable of counterattacking ISIS until at least the spring or summer of 2015," nearly a year *after* the formal start of OIR.[116] All the more so in light of that known fact clearly admitted to by both U.S. Army generals, the color of their uniforms should in no way have influenced, let alone predetermined, the strategy they ultimately chose for engaging ISIS at the campaign's start. In the end, as an observant U.S. Air Force F-16 pilot who flew combat sorties during the campaign's first months later recalled, what the U.S. Army and U.S. Air Force leaderships both failed to recognize in adequate time was

> that ISIS was a proto-state requiring more than just CAS and support to the indigenous ground maneuver elements. It also required a distinct and separate aerial bombing campaign on strategic targets and air interdiction, and this needed to happen right away while the coalition was still gestating. That, in turn, meant duly supporting the embattled Iraqis and keeping that figurative ship afloat while concurrently doing our utmost to hurt ISIS's warfighting capability with a sustained air campaign. Yet we did the former but not the latter during OIR's pivotal first two years in late 2014 and 2015. Stated another way, at a time when the campaign should have been mainly air-centric, it wasn't. Its construction from 2016 onward was probably correct. But its construct at the beginning was flawed.[117]

Significantly, as was later acknowledged by OIR's initial deputy CFACC, the prospective command arrangements for the coming campaign at the start of planning for it were "hotly debated with the CENTCOM commander over several weeks." Although General Lofgren did not indicate when that contentious back-and-forth first began, who its main protagonists were, and what spectrum of concerns it addressed, the simple fact that the debate was both heated and prolonged would seem to suggest almost inevitably that it centered, among other possible points of contention, on the ultimate hot-button issue of whether the strategy for the first phase of the pending campaign should be land-centric or air-centric and, directly connected with that issue, whether the CJTF for the coming fight should be commanded at the outset by an Army general or by an airman. General Lofgren further acknowledged that "the Air Force was asked to provide manpower to the JTF and did not do so initially, which

[ultimately] shaped the early constructs [for the campaign].” He then added his own personal observation regarding that revelation: “If we [i.e., CENTCOM’s air component] are going to be engaged, we have to do so from the start.”[118] That acknowledged fact raised the even more intriguing question as to whether AFCENT’s three-star commander at the time either himself sought or was actively entreated by General Austin to take the lead in planning and overseeing the still yet-to-be-named campaign. For sure, if there ever was a nascent challenge within CENTCOM’s area of strategic regard in the Persian Gulf region that was quintessentially amenable at least in principle to an air-centric course of action for the campaign’s start, it was the challenge presented by the rise of ISIS during its earliest embryonic stage. If anything like such a consideration indeed arose and was an object of debate “over several weeks” within General Austin’s innermost circle, it would offer a pivotally important piece of the puzzle toward helping to explain, either for better or for worse, how the command structure for CJTF-OIR and the eventual choice of strategy for combating ISIS ultimately evolved.

In the end, by the time President Obama ordered CENTCOM into action against ISIS in early August 2014, the jihadist movement had metastasized to a point where it had taken complete control of Iraq’s second largest city of Mosul, with the result that any case for an air-centric start to countering that still-expanding threat most likely appeared less compelling in the eyes of CENTCOM’s U.S. Army leadership than it might have been had the administration moved to engage ISIS both sooner and with greater dispatch. Whatever the case, as General Lofgren recalled of the campaign’s eventual genesis, “the CENTCOM commander’s going with the choice of ARCENT [U.S. Army Central Command to plan and oversee it] was driven more by comfort and the fact that the air component was not postured to be able to execute the JTF mission.”[119]

On this count, the second assigned CFACC for OIR, Lieutenant General Brown, later recalled in a similar vein his impression that CENTCOM had “become comfortable with unit-based solutions, with an existing command and subordinate staff that had worked and trained together, as opposed to using a joint manning document and rotational personnel that the Air Force had been comfortable and successful with in the CAOC at al-Udeid.” General Brown further surmised that General Austin’s ultimate appointment

of U.S. Army lieutenant general Terry to command CJTF-OIR may well have been "less about the Army lieutenant general [per se] and more about selecting a unit-based solution [for which the U.S. Air Force lacked an equivalent offering]—an existing Corps organization and staff that happened to be led by an Army lieutenant general."[120] If that indeed was the case, it offered powerful, if silent, testimony to the extent to which the U.S. joint-service structure remains broken when the Air Force opts to operate in one way and the Army in another, instead of both striving to amalgamate the two contrasting approaches more synergistically within CENTCOM.

Yet there was no reason in principle why a duly qualified U.S. Air Force three-star general could not have rolled in, assumed command of the war against ISIS, and applied a more appropriate course of action at least at the outset both easily and seamlessly within the framework of the CJTF structure that was already in place and immediately available at CENTCOM. Ultimately, what should have mattered most for General Austin in preparing his command to take on ISIS militarily was not the "command and subordinate staff that had [previously] worked and trained together" that he was most comfortably attuned to but rather what class of expertise and associated skill set would be best suited for the commander ultimately picked to plan and launch a successful campaign against the unique strategic and operational challenge that ISIS presented. Whatever the case, by the time he reached his decision to assign General Terry to command CJTF-OIR, the "JTF mission," now defined as a ground push through Iraq first and relying on the still-atrophied ISF to conduct the eventual bulk of hard fighting, was already a fait accompli in his mind and one in which AFCENT would necessarily play only a supporting rather than supported role for CJTF-OIR's U.S. Army commander.

Perhaps not surprisingly when viewed in retrospect, once OIR had advanced steadily in scale and intensity from its hesitant start in August 2014 to its more well-developed pace as a land-centric effort three years later, it was both natural and understandable that senior airmen in its chain of command would have been convinced that a combat-experienced ground-force general offered the most appropriate background for overseeing such an effort. As the third successive airman assigned as CJTF-OIR's deputy commander for operations and intelligence, Maj. Gen. Dirk Smith, USAF, recalled his sense of the situation when serving in that

capacity for a year from May 2017 to May 2018 as the campaign was nearing its finally successful endgame: “I wonder how the Iraqi Security Forces (dominated by Army leadership) and our SDF partners in Syria would have done at developing the necessary trust and deep partnership with an airman in lieu of a U.S. Army three-star as the CJTF-OIR commander? The ‘by, with, and through’ approach [a distinctly U.S. Army–specific doctrinal concept that lay at the heart of the anti-ISIS campaign’s strategy] requires very close relationships and a keen understanding of ground schemes of maneuver and commander-to-commander relationships.” Adding that the successive U.S. Army commanders of CJTF-OIR under whom he served, Lt. Gen. Paul Funk and, before him, Lt. Gen. Stephen Townsend, “knew many of the ISF general officers from their previous multiple combat deployments to Iraq,” he stressed that any airman serving in that same capacity “would need to be deliberately experienced and developed” to a similar high degree in order to be successful.[121]

It should be noted in passing here, just by way of clarification, that the “by, with, and through” approach alluded to by General Smith substitutes local indigenous forces for American troops. The concept originated in the special-operations world and was first reflected in formal U.S. Army doctrine in 1955. In 2007 the Army brought it out of the special-operations realm and into CENTCOM’s mainstream at around the time of President George W. Bush’s ultimately successful surge in Operation Iraqi Freedom, prompted by a belief that it could also be usefully employed in support of conventional land warfare. As it was well summarized in one able account, “*through* … is the means by which the U.S. employs the ways of the current paradigm’s *by* and *with* to achieve ends supporting U.S. objectives” by working *through* a third party.[122]

In a similar vein, Brig. Gen. Andrew Croft, USAF, who served under General Smith as the deputy commanding general for air of CJTF-OIR’s land component and as the CJTF’s JAACE director during the same final phase of the campaign, likewise recalled: “By the time I got there, the advise-and-assist mission that was being done by the Army brigade up in Mosul was absolutely critical to the fight. It therefore made sense to have the battalion-brigade-division-corps chain of command and processes in place that the Army brought to the battlefield.”[123] Amplifying further on that well-taken observation, he later added:

> The U.S. Army brigade on the ground that was advising, assisting and accompanying the Iraqi Army, Federal Police, and Counter-Terrorism Service … was absolutely crucial to winning, as were the U.S. and coalition special forces that did the same thing with the Iraqis. This partnering on the battlefield, in addition to the U.S. Army corps and division leadership that battle-planned nightly with the Iraqi senior leadership … was absolutely necessary to win, as was all the U.S. Army- and Marine-led planning that occurred for the follow-on battles for Tal Afar, Hawijah … and into the MERV [middle Euphrates River valley in Syria] as ISIS was defeated in Iraq. We tied in the airpower from our positions, but had an airman commanded the CJTF, we still would have needed the same ground-centric capabilities.[124]

Here, as well, a further clarification and amplification would seem called for. The position of JACCE in OIR mentioned both immediately above and before was a continuation and refinement of an arrangement first pioneered during the major combat phase of Operation Iraqi Freedom in March and April 2003, when CENTCOM's air component commander at the time, Lt. Gen. Buzz Moseley, dispatched Maj. Gen. Daniel Leaf, along with an eleven-member Air Component Coordinating Element, to CENTCOM's land component headquarters to ensure that the latter's commander would have adequate counsel at all times from an airman with indisputably credible air-warfare credentials. That preventive measure occurred just about a year after an inexcusable failure by CENTCOM's then-assigned land component commander to communicate his intentions clearly to the CAOC, which left his subordinate U.S. Army JTF commander totally unprepared for Operation Anaconda in Afghanistan when it came to what turned out to have been urgently needed air support at the last minute during the operation's first two days after the mission unexpectedly turned sour. The role and intent of the JACCE position in OIR was to provide similar high-quality air expertise to the U.S. Army–dominated CJTF.[125]

Fortunately for the ultimate success of CJTF-OIR's four-year-long campaign against ISIS, its U.S. Army–led headquarters by mid-2016 and thereafter, at long last having had an uninterrupted succession of experienced two-star U.S. Air Force fighter-pilot generals in the key role of deputy commander for operations and intelligence, finally developed a

smoothly functioning battle rhythm in which CENTCOM's air component figured both pivotally and effectively as the sole but also outcome-determining U.S. kinetic contribution to a ground-centric war plan. As the third of those senior airmen, Major General Smith, later pointed out helpfully, "given the great work done by [my predecessors, Maj. Gen. Peter] Gersten and [Maj. Gen. Scott] Kindsvater, when I stepped into the position, I felt like I was very empowered by the CJTF commander … to ensure that 'airmindedness' could be in every CJTF senior leader discussion. It also allowed me to provide detailed understanding of issues from the CJTF and subordinate land component commanders' perspective to the CFACC and deputy CFACC." General Smith added:

> We also adjusted the JACCE construct from one where the JACCE director was a third hat worn by my predecessor to one where the CFACC gave me ADCON [administrative control] and OPCON [operational control] of the JACCE, with direct TACON [tactical control] to the CFACC to support him. This was accomplished to flatten communications from the various JACCE outposts [throughout Iraq] direct to the CAOC instead of through [me as] the two-star. We did this via the command authority given to me by the CFACC as the AETF-L [Air Expeditionary Task Force-Levant] commander. The AETF-L commander hat was sufficiently powerful that I could have a commander-to-commander relationship with the CFLCC and SOJTF [Special Operations Task Force] two-stars.[126]

This well-tuned and seamless integration of U.S. and coalition airpower as the lead element of CJTF-OIR's combat operations against ISIS, however, was anything but the day-to-day norm during the campaign's far more halting and troubled first year. As was later explained by Major General Moore, who had been the most senior U. S. airman on the ground in Iraq during the campaign's initial months by virtue of his assignment in the U.S. Office of Security Cooperation-Iraq in Baghdad, his organization engaged on a daily basis with CENTCOM, including with all of its subordinate commands and components and with the Iraqi government, although he himself did not personally figure in the targeting process or in any other campaign-related U.S. military activities. Eventually, at around the start of 2015, the U.S. Air Force sent Brig. Gen. John Cherrey, a

combat-seasoned A-10 pilot and Weapons School graduate, to CJTF-OIR's forward headquarters in Kuwait to help plan and direct air operations in its still slowly progressing war against ISIS. For at least the campaign's first five months, however, going back to early August the year before, CJTF-OIR had *zero* formal air representation in its command section. Yet during those same initial months, the only U.S. combat operations against ISIS in Iraq and Syria were from the air, with CJTF-OIR's U.S. Army personnel focused solely on rebuilding what had been lost from the Iraqi army after the U.S. withdrawal of forces from Iraq at the end of 2011.

That meant, in turn, that CENTCOM's only component actually conducting combat operations against ISIS was not in charge of those operations. In that manifestly dysfunctional circumstance from a rational force-employment perspective, CJTF-OIR's commander, Lieutenant General Terry, would brief the daily air operations flow via videoteleconference from Kuwait to CENTCOM's commander, General Austin, sitting in his headquarters back in Tampa, Florida. As General Moore later pointed out, in that odd briefing arrangement and lineup of presenters, "the CFACC [Lieutenant General Hesterman, participating from the CAOC in Qatar] was often left with little to say when it was his turn, which usually occurred last."[127] It was not until May 2015, nearly a year into the campaign, when General Gersten arrived in position as CJTF-OIR's assigned deputy commander for air, finally providing direct senior air representation on Lieutenant General Terry's staff for the first time since the campaign began. In light of that long-delayed move to insert a senior air presence and voice in CJTF-OIR's command section for its daily planning deliberations, it is hardly surprising, viewed in hindsight, that the air contribution to CENTCOM's war against ISIS was so manifestly suboptimal throughout its first year when it came to weakening ISIS in its most vital strategic center of gravity. The campaign was commendably effective in achieving its initial goal of preserving Iraqi and Kurdish sovereignty and at limiting wanton genocide by ISIS. But the absence of a senior airman where most needed to advocate forcefully for a serious independent interdiction effort against the jihadists from the campaign's start severely hindered its achieving its full potential.

Regarding AFCENT's initial effort to increase the airpower focus within the CJTF, General Brown later recalled how "Major General Gersten

pushed hard with both Lieutenant General Terry and Lieutenant General MacFarland to change his title from DCOM Air to DCOM Operations and Intelligence so as to better incorporate airpower leadership into the CJTF's decision process." General Brown also moved AFCENT's Air Support Operations Center from collocation with the CJTF's land component, which was almost totally focused on Iraq, to CJTF-OIR's headquarters in Kuwait so as to achieve a broader airpower perspective and more effective air employment across that command's entire area of regard, most notably including in Syria rather than just in Iraq. As for his underlying rationale for that latter move, General Brown added: "I wanted to conduct more deliberate strikes in Syria to support the future close fight in Iraq. I often shared with my staff that although Iraq may be first in priority, it was second on my playlist when it came to where I wanted to apply airpower."[128] This, one can fairly say in hindsight, should have been a key part of CENTCOM's strategy from the very start.

How the Campaign Might Have Been More Effectively Conducted

As a hypothetical alternative to the command structure for CJTF-OIR that ultimately evolved, what if a duly qualified U.S. Air Force three-star general had instead been assigned by General Austin to take the lead, at least at the outset of campaign planning, from the first moment that CENTCOM was directed by the White House to engage and defeat ISIS? Given the realities of the strategic landscape that prevailed in Iraq and Syria in late July and early August 2014, a more promising initial move on the part of CENTCOM's commander might arguably have been to recognize and accept that there would be no sufficiently trained and combat-ready indigenous anti-ISIS ground troops in the war zone for AFCENT to "support" for at least a year or more and that, until such a reality was finally at hand, he should instead pursue a more productive interim course of action by assigning his three-star U.S. Air Force air component commander as his first subordinate commander for CJTF-OIR and duly empowering that chosen airman to apply his own best judgment toward determining how best to proceed next, at least until a true joint and combined air-land war was ready to be unleashed against ISIS.

To be sure, in order for such an arguably more sensible approach to have worked out most effectively, the Obama administration and CENTCOM would have had to start campaign planning ideally in June

2014, quickly marshal the needed intelligence and organizational wherewithal to nominate strategic and interdiction targets, and be willing to go into Syria right away to pursue an air offensive against ISIS aimed at its heart. Had those essential preconditions been availing and duly exploited, such a contrasting campaign approach would have had every prospect of achieving significant initial combat successes in fairly short order. In a strong seconding motion to this entirely defensible alternative approach, General Brown later suggested in hindsight that, at least "in the early stages, as CJFLCC-I [Combined Joint Forces Land Component Command-Iraq] was working to rebuild the ISF, the commander of AFCENT could and probably should have been [designated as OIR's] supported commander, with an eventual handover to CJTF-OIR once offensive land operations began. This [alternative approach] would have had the right leadership and expertise in charge [more properly] aligned with the [initial] scheme of the campaign."[129]

Even Col. Peter Mansoor, USA (Ret.), cited earlier, who had previously served as a close adviser to Gen. David Petraeus, USA, and other American ground commanders in Iraq, suggested reasonably enough that "if this was going to be just an air campaign [which it most decidedly was for U.S. forces during its first two years], it would have made much more sense to have an Air Force officer in Baghdad and have him lead the charge."[130] With such more appropriate CJTF leadership in place and formally chartered to plot a vector for what would immediately come next, it is a reasonable bet that the first thing any truly air-minded and strategically literate Air Force CJTF commander-select would have done would have been to take a full measure of ISIS *before* committing to any major ensuing course of action for the war's opening round.

Of course, in order to ensure the eventual reconstitution of the ISF to the degree necessary for it to take on ISIS effectively in the fullness of time, there would still have been a need, as noted above by General Smith, for CJTF-OIR to interface closely from day one onward with the Iraqi army leadership. And that, in turn, would have called for a depth of land-warfare expertise in general and familiarity with the Iraqi situation on the ground in particular that no airman as the CJTF commander could realistically have been expected to offer. But as General Deptula has rightly pointed out on this score, that vital role could have easily enough been fulfilled by a

suitably experienced two-star U.S. Army deputy CJTF commander for land operations with close connections to his Iraqi counterparts. “Yet without an airman in charge,” Deptula went on to note, “there would have been *no* possibility of a strategy being developed that put the ISIS center of gravity in Syria in the cross-hairs as a [campaign] first priority rather than second priority.”[131] This, in fact, is precisely what actually transpired at the campaign’s outset.

True enough, to restate an important point already alluded to above, anyone viewing CJTF-OIR’s tasking by CENTCOM as it eventually unfolded—namely, as a ground-dominated joint and combined counter-offensive against ISIS principally in Iraq—might naturally conclude that AFCENT’s organizational makeup and skill set were poorly suited to render it a very attractive choice for effectively overseeing such a campaign endgame. For his part in that regard, General Croft had an entirely valid point in accepting the idea that “a correctly run air campaign might have prevented the Mosul problem in the first place,” but then duly noting that “that is all in retrospect” and adding, with informed hindsight, that “the Army brigade on the ground that was advising, assisting, and accompanying the [engaged indigenous Iraqi ground units] was absolutely crucial to winning.”[132] By the same token, the two-star Air Force fighter pilot who served for a year previously as CJTF-OIR’s deputy commander for operations and intelligence once the campaign was already well under way, Major General Kindsvater, likewise questioned from a similar perspective whether an airman could have effectively led what he called the “multi-division and then Corps/two-nation fight” that was being conducted by the CJTF when the needed skills for exercising proper leadership in such a capacity have never, as he rightly put it, been traditionally a part of the Air Force’s “functional expertise.”[133]

Yet the “multi-division and then Corps/two-nation fight” that CJTF-OIR ultimately ended up conducting against ISIS was not the only alternative available to CENTCOM for taking on the jihadist movement from the campaign’s first day onward. Quite to the contrary, there is every reason to believe that a suitably experienced three-star U.S. Air Force airman with an amply developed strategic mindset as CJTF-OIR’s assigned commander might well, to begin with, have more fully assessed and understood ISIS for what it really was as a first order of planning business. It would then have

been an all but natural next step for any such notional airman to have selected a different campaign template for combating that now duly appraised opponent by pursuing a course of action that would not require, at least at the outset, the sorts of land-warfare leadership skills that later would prove essential for commanding a preponderant ground force of the sort that ultimately became the centerpiece of OIR. More to the point, such a notional three-star airman as CJTF commander at the campaign's outset might well have chosen to take on the enemy during the effort's initial phase as a targetable state-in-the making rather than as a misdefined insurgency calling for a ground-centric emphasis along with overly inhibiting ROE focused principally on civilian casualty avoidance. As former U.S. Air Force chief of staff Gen. John Jumper suggested retrospectively in this regard, "Obama's remark about ISIS as the junior varsity [probably] set the tone for our minimalist approach to a rapidly growing and increasingly radical ISIS movement. Add to that our demonstrated failure to act on red lines that the president himself articulated and it's easy to understand why the United States tiptoed into a fight that could have been squelched easily by airpower when there were just a few thousand ISIS fighters."[134] This, one must hasten to add, would have required sustained and well-targeted strikes into central Syria in the spring and summer of 2014, which President Obama in all likelihood would have deemed prohibitively abhorrent.

For his part, the second assigned CFACC for OIR, General Brown, later agreed in principle that "a qualified Air Force three-star could have led OIR," but only, he felt, after "a couple of institutional challenges [were first] overcome," most notably by the Air Force's adopting a different JTF command and staff presentation model that would offer any regional combatant commander a "unit solution" analogous to an Army corps or division structure in lieu of a commander with a "personal staff leading a non-unit solution similar to AFCENT."[135] As former Air Force chief of staff General Welsh helpfully amplified on this point, "the real issue [was] that [CENTCOM's] ground commander had grown up with the model of deploying an existing headquarters to lead the fight. The Air Force didn't have a deployable headquarters and so was never seriously considered to lead this charge." General Welsh added that Lt. Gen. David Goldfein, after having served previously as AFCENT's commander, raised this issue with

him promptly upon having been reassigned to the Pentagon as the director of the Joint Staff and "began organizing his thoughts on it right away, later making it one of his primary focus areas when he became the [Air Force] vice chief of staff and subsequently chief of staff."[136]

Today, toward that end, in a clear acceptance of this purportedly essential organizational change and motivated by a determined commitment to do something about it, the aforementioned establishment of a new standing JTF headquarters structure within Air Combat Command's 9th Air Force at Shaw AFB, South Carolina, "is now coming together," in General Brown's assessment, under General Goldfein's oversight as the current Air Force chief of staff.[137] Only time will tell if this latest Air Force initiative toward gaining increased command credibility and potential in the joint warfighting arena in such instances in which that service's combat offerings would be most pertinent to mission needs will lay the needed groundwork for a suitably qualified airman to serve as the duly appointed CJTF commander the next time a challenge facing the nation in CENTCOM's AOR or anywhere else might call for it.

In this regard, Maj. Gen. Charles Corcoran, USAF, who had served as AFCENT's chief of staff in 2013 and 2014, offered one cogent insight into how a duly equipped airman as CJTF commander might have approached the initial planning of an air-centric campaign against ISIS in a way substantially different from the route ultimately chosen by CENTCOM. Having had a catbird seat from which to observe developments from up close as the jihadist movement first arose in Iraq and Syria, he later recalled that a major reason for OIR's faltering missteps at the campaign's start was "simply our lack of understanding of the enemy." He rightly added, "Target system analysis takes time," and CENTCOM had not done its needed preparatory homework before leaping headlong into its inappropriate ground-dominant, Iraq-centered, and COIN-oriented response to ISIS, when what was actually called for in the situation was a campaign plan fundamentally different in both focus and level of intensity.[138]

Indeed, as former Air Force chief of staff General Welsh later recalled, AFCENT was just as guilty as was CENTCOM and most other key entities in the U.S. defense hierarchy for having failed at first to see and treat ISIS for what it really was—namely, as a self-avowed state-in-the-making rather than simply as a regenerated insurgency. It was only after his deputy chief

of staff for ISR, Lieutenant General Otto, first arrived at this gradually dawning realization and began stressing it in his daily interactions with those actually overseeing the campaign that CENTCOM finally began viewing and addressing ISIS for its true nature as an opponent.[139] "We need to learn this lesson," General Corcoran reflected.

> We can't wait for a conflict [as we did while ISIS was first metasta-sizing throughout its held portions of Iraq and Syria] to understand our potential enemies and their critical infrastructure. We need to do this analysis *now* … in peacetime. If we are surprised by something like ISIS, which I contend we shouldn't be, then we need to throw all resources available at the effort to complete a thorough target system analysis. Once we have that in hand, we can [then] develop a campaign to dismantle and defeat [the enemy] using all forms of power at our disposal, including airpower.[140]

CENTCOM's leadership at the time could easily enough have sought out and heeded such good counsel once it became clear by mid-summer of 2014 that a military response by the Obama administration to ISIS's mounting depredations against hapless Iraqis was becoming increasingly likely. After the administration finally found itself left with no alternative but to react in force to the mounting privations that were being inflicted by ISIS on Yazidi civilians in northern Iraq in July and early August 2014, CENTCOM had an instant windfall opportunity to revisit and apply once again the instructive learning it should have gained and duly assimilated from the first round of its earlier successful war against the Taliban in Afghanistan in October 2001. Such an approach focused on planning a sustained air assault against ISIS throughout the movement's occupied portions of Iraq and Syria could have leveraged the fullest possible weight of U.S. and allied air, ISR, and SOF resources against all discoverable and targetable ISIS assets of strategic import in both countries. (This presumes, of course, that President Obama would have been temperamentally disposed in principle to countenance such a more kinetic starting option, the extreme unlikelihood of which might well have rendered any such alternative course of action moot even in the best of circumstances.)

Unfortunately, however, any chance for the adoption of such a more promising approach to the coming campaign was most likely rendered all

but impossible before it ever had any opportunity to be realized when CENTCOM in June 2014, two months *before* the start of its bombing, was directed to begin planning for potential military operations against ISIS. Upon receipt of that directive, according to an official U.S. Army after-action report, CENTCOM's commander, as noted in this assessment's introductory chapter, promptly and, in all likelihood, without much prior deep reflection "designated [the command's] Army component, the United States Army Central Command (ARCENT), as a joint-force land component for operations in Iraq."[141] Even then, such an organizational response might in principle have still allowed for CENTCOM's nominally coequal air component commander to have had AFCENT designated a joint-force *air* component for overseeing any air contribution to the looming fight—which, in fact, is accepted U.S. joint doctrine as formally published. In the event, however, by October 2014, just two months after the start of coalition air operations, CENTCOM's land component was formally designated as the Combined Joint Forces Land Component Command-Iraq, a move that eventually became locked in concrete fifteen months later with the deployment of the U.S. Army's III Corps to the region and the latter's formal designation as the overall Combined and Joint Task Force-Iraq, thus subsuming all other subordinate CENTCOM commands, AFCENT included, under a new U.S. Army–led CJTF for Iraq and Syria.

Militating even further against much of a chance of CENTCOM's arriving at any such more appropriately focused approach toward addressing the ISIS challenge, "the CJTF [for OIR] was more accurately a U.S. Army Corps headquarters," as the Royal Air Force's air contingent commander for the campaign later recalled, "and the U.S. Army was more comfortable with Iraq than [with] Syria because of its previous years there—perhaps an explanation for [its] delays in executing an effective plan for Syria." To make matters worse yet, with no formal air representation in the subordinate command structure that CENTCOM had cobbled together for Inherent Resolve for at least the campaign's first five months, "air was rarely embedded early in CJTF planning and had to fight valiantly to be heard."[142]

As a knowledgeable U.S. Air Force colonel later recalled in this regard in a circumspect but nonetheless telling way, "it is an understatement to say that there was a very Army-centric dose of operational art [prevalent at

CENTCOM's headquarters] in the summer of 2014." That fact in all likelihood, he added, worked mightily "to constrain any semblance of an interdiction campaign" emerging as a part of the CJTF's initial counter-ISIS campaign planning.[143] Former Air Force chief of staff General Welsh later on portrayed this long-ingrained organizational pathology even more pointedly as "the [single] biggest airpower-related impact of having ground commander after ground commander leading CENT-COM and its associated CJTFs." As an inescapable result, he added, CENTCOM's headquarters "has a very clear ground-centric mentality, and [its] planning options tend to reflect that fact, as does the Joint Staff in the Pentagon for the same reason."[144]

Almost naturally, then, from that deeply ingrained organizational point of departure, CENTCOM's U.S. Army–dominated CJTF-OIR proceeded for more than a year to wage a slow-to-start, misdirected, and strategically suboptimal bombing effort against ISIS that was conceived and conducted purely as dedicated air "support" to still mostly non-combat-ready ISF ground forces, when a more effective approach, whether or not planned and overseen by an airman as the CJTF commander, might have concentrated instead on ISIS's core equities in Syria rather than in Iraq, at least at the campaign's start. To be sure, as has already been noted in several well-informed insider recollections quoted above, any such alternative approach, to have been mission-effective in short order, would have required CENTCOM and AFCENT, along with their embedded intelligence and planning organizations, to have stepped out with the greatest possible determination toward regenerating and standing up the needed wherewithal to conduct the requisite target system analysis and weaponeering for underwriting a serious interdiction campaign against ISIS's most vital strategic equities in both Iraq and Syria. Had such a more energetic response been undertaken by CENTCOM in a sufficiently timely way, which, to be sure, may have been expecting too much for such a large and bureaucratically impacted combatant command, that more promising approach could have caused far more serious harm to the jihadist movement's most valued assets in short order had ISIS been correctly assessed and engaged in campaign planning from the very start as a proto-state rather than an insurgency, and had more appropriate and more permissive ROE for conducting it been duly applied.

Almost from the campaign's first moments, however, General Welsh made it clear in a press briefing conducted later in mid-January 2015 that "the [Department of Defense's] approach is not to defeat ISIS from the air. The intent is to inhibit ISIS, to attrite ISIS, to slow ISIS down, [and] to give a ground force [of indigenous combatants] time to be trained, because the ground force will be required."[145] More than a year later, in subsequent testimony before the Senate Armed Services Committee, General Austin likewise reaffirmed that CENTCOM's plan to defeat ISIS required "that we *rely* on indigenous forces and that we *support* and *enable* their efforts using our precision air operations."[146] However, Secretary Carter later recalled that throughout the spring and early summer of 2015, as ISIS was continuing to grow and to seize new ground in both Iraq and Syria, "the U.S.-led air campaign continued, but we were far from having the effects on ISIS operations that we wanted and needed"[147]—and, one might add, *could* have had if a more appropriate and effective strategy had been pursued by CENTCOM from the campaign's very start.

On that important count, the lead JTAC in the Baghdad strike cell at the start of OIR later recalled likewise that "our war against ISIS was not supposed to be an 'air war.' Its foundation was the advising and enabling of a coalition of Arab ground forces to fight ISIS on their own, with only support from our airpower." That said, however, he hastened to add that even at a bare minimum, "we could have buffered it with an earlier initiation and with deeper strategic air interdiction strikes earlier on, and that would have helped the partnered ground campaign win faster."[148]

The Opportunity Costs of CENTCOM's Chosen Course of Action

Viewed with twenty-twenty hindsight, the shortfall in early combat payoff yielded by the desultory air war against ISIS that subsequently ensued over Iraq and Syria for more than a year was a predictable result of CENTCOM's suboptimal strategy choice from the campaign's first moments onward. By way of offering just one example of the practical costs in operational efficiency that were exacted by the campaign's mistaken COIN focus and associated ROE, the same Air Force F-15E pilot quoted above, who flew daily sorties against ISIS for a time, had this to say:

> We waited 90 minutes for [a target attack] approval, but we ran out of time and couldn't strike the target. Most of the targets are nominated by ground forces, then a robot [an RPA] takes a look at

> it so the JOC can see the full-motion video, then to the collateral-damage estimates and legal assessments, then we first hear about it from a JTAC in the form of a nine-line [a radio-transmitted voice directive] calling for the strike. We often get weaponeering solutions mandated to us that are more about mitigating collateral damage than achieving weapons effects. This circles back to [the issue] about the importance of minimizing civilian casualties vs. the importance of killing ISIS. The problem here is that we had an institutional targeting process that was built around [the earlier COIN operations in Iraq and Afghanistan] and couldn't adjust itself to meet the needs of a different [kind of] fight.[149]

A similar firsthand anecdote regarding the deleterious impact of long-habituated COIN-driven thinking as applied to a very different variety of combat was later offered by a fellow F-16 pilot who had a similar experience to report:

> My target assignment for the first day of strikes into Syria was a vehicle compound. We received a targeting pack with DPIs [designated points of impact] in a large fenced-in area. In the imagery there were clearly vehicles parked, but the DPIs were not on the vehicles. We were directed to utilize bomb-on-coordinate attacks, that is, we were supposed to drop our weapons directly on the DPIs. We asked if we could instead target the vehicles in the yard. The initial answer from our TET [targeting effects team] cell in the CAOC was no, because the DPIs were planned to mitigate collateral damage. I almost fell out of my chair when I heard that…. By mitigating collateral damage, we were in effect wasting four bombs by also mitigating their effects. Complete insanity. It took until we were stepping to our jets to get permission to engage the vehicles "as long as they were inside the fence." To me this highlights the same principle—our apparatus did not adjust itself to this fight. We were thinking COIN when we were conducting an air interdiction strike into Syria on ISIS's rear lines of communication and transportation network.[150]

For just a brief colorful aside here, in expanding further on this frustrating OIR experience, Major Balzhiser added: "One of my favorite attacks ended up being this very vehicle yard. We wheeled up and SPI [sensor point of

interest]-slewed GBU-38s and dive-glided GBU-12s onto vehicles until we ran out of bombs. I hit two Humvees with black flags painted on their hoods. The one I hit with a [500-lb] 12 was spectacular. It launched the engine block a hundred feet into the air and completely disintegrated the rest of the vehicle. I distinctly remember watching the smoke clear and seeing just a wheel rolling away from a smoking crater like a movie scene."[151]

After what Secretary Carter later aptly characterized as CENTCOM's "ad hoc launch" of its initially flawed war plan in early August 2014, the vast oil reserves in Iraq and Syria that had been controlled and steadily exploited by ISIS for copious financial gain were not targeted and struck until a full fifteen months later, offering yet another testament to the downside costs of the misguided gradualism and inappropriate COIN focus of the Obama administration's and CENTCOM's initial approach to their counter-ISIS effort.[152] That faulty mindset and the flawed campaign plan that naturally flowed from it gave the jihadist movement, on a virtual silver platter, some $800 million a year in black-market revenue that, for too long, allowed it to continue recruiting Islamist zealots from around the world and to continue terrorizing the many hapless Iraqi and Syrian citizens who were caught up in its grip. A more promising and productive strategy would have concentrated instead on interdicting ISIS's flow of oil and other supplies from the campaign's first moments onward rather than wasting valuable ISR sorties and air-delivered PGMs in a misprioritized CAS endeavor flown over Iraq's cities mainly to satisfy the advise-and-assist desires of U.S. Army generals who commanded *no* troops actually involved in the fight. Had such a more goal-maximizing approach been duly pursued instead by CJTFOIR, the vast majority of AFCENT's ISR operations at the campaign's start would have been conducted not over Iraqi urban areas and front lines but, as General Moore well put it, "across the border in Syria [and] on the border in the Anbar desert building situation awareness for our interdiction attacks. Imagine the Ho Chi Minh trail but in a desert!"[153] The above-quoted F-16 pilot who actually flew combat sorties in OIR during that early period resoundingly echoed General Moore's critical judgment on that count: "Air interdiction is a doctrinal mission set that we practice all the time, but somehow we didn't implement it in OIR until much later than we should have."[154]

In this regard, General Deptula suggested at the end of 2017 that, had CENTCOM pursued a more effective plan that understood ISIS for what it actually was from the very start and duly engaged it as such, “we could have achieved our objectives through the use of overwhelming airpower in three months, not in three years.”[155] Even if only three months, viewed in hindsight, fell considerably short of a more realistic length of time a more fitting approach would most likely have needed to bring ISIS to heel, such a better-focused strategy could still surely have achieved that desired result in considerably less than the more than four years that CENTCOM’s campaign ultimately took to do the job.

In the end, new presidential leadership in Washington by the start of 2017, driven by a deeper commitment to ending the war both decisively and as quickly as possible, issued new directives to CENTCOM for the latter to lift its most burdensome impediments to more rapid progress toward that recast goal. That single, top-down change in approach almost instantly made the crucial difference that finally allowed coalition airpower and well-prepared indigenous friendly ground forces to sweep ISIS off the battlefield at long last. As General Corcoran later recalled on this critical count, “when we shifted from advise [and] assist to … advise, assist, *accompany* and *enable*, things changed. When our [SOF teams and JTACs] on the ground were able to truly support the main effort, we really started rolling back the enemy.”[156] In that regard, the Obama administration’s eventual consent to allow U.S. military personnel to embed themselves with ISF troops on the front lines in such a capacity was a major contributor to many of the latter’s subsequent successes on the ground, to a point where it was Iraqi forward air controllers in the Counter-Terrorist Service who forwarded most of the aerial strike requests during the battle to free Mosul. What really made the crucial difference toward finally bringing ISIS to its knees, however, was the change in the air war’s broader vector and character that was only truly formalized by the Trump administration’s ramped-up effort. As General Corcoran well put it, “once we unleashed airpower on ISIS in a strategic fashion, going after their financing, command and control, [and] leadership rather than just using it for CAS, the overall campaign advanced rapidly.”[157]

On this important point, President Obama’s chosen envoy for the global coalition against ISIS, Brett McGurk, who stayed on in that position in the ensuing Trump administration, well spotlighted what he viewed as some

pivotal initiatives mandated by President Trump aimed at increasing the campaign's overall pace and prospects: "I think it's moving faster, more efficiently, and more effectively," he said in late 2017, "due to some really critical changes that were made in the strategic review led by [Secretary of Defense Mattis] and the whole interagency team with [Secretary of State Tillerson] and the [JCS] chairman."[158] As for other "key changes" for the better that President Trump had introduced in addition to delegating target-attack approval authority down to lower command echelons that had allowed for greater responsiveness to emerging opportunities and changing battlefield circumstances, McGurk pointed to the new administration's ramped-up "campaign of annihilation" that sought to surround targeted Iraqi and Syrian cities still occupied by ISIS jihadists before launching ground offensives into them so that none could escape.[159]

In a similar vein, widely respected former U.S. Army vice chief of staff Gen. Jack Keane likewise remarked at the end of 2017 that the Trump administration had "made the strategic decision to crush ISIS as quickly as possible, [and] that stands in stark contrast to the Obama decision"—even though the campaign had indeed already achieved major gains in beating ISIS down in both Iraq and Syria once its level of effort was finally cranked up toward the end of Obama's second term in office. Even with that due dispensation fully granted, however, General Keane further recalled that it had taken President Obama a full fifteen months before his administration had even begun to attack the captured Iraqi and Syrian oil infrastructure that had been providing ISIS with so much of its illicit monthly revenue flow. Listing, in particular, the three most important ways in which he felt President Trump's redirected effort had enabled the achievement of quicker progress against ISIS, Keane explained: "One, change the rules of engagement to facilitate the use of military force more effectively. Number two, make sure we are not micromanaging our commanders the way the Obama White House did. Number three, give them the additional resources that the commanders have been asking for, so we gave them a significant amount of air power [and] increased our special operations forces and advisers."[160] To this fair appraisal as far as it went, however, the above-quoted U.S. Air Force F-16 pilot who actually participated in that heightened airpower application during his second OIR rotation noted the important qualification that "if Obama hadn't authorized the initial strikes,

there wouldn't have been a base from which to build the ISF back up." He further offered the no less important reminder that "Trump's administration also benefited from a ground coalition that had matured and was now ready actually recapture its lost territory."[161]

As CENTCOM's war against ISIS finally reached its peak intensity under the new leadership in Washington, Anthony Cordesman rightly observed that the human cost of the previous administration's contrasting two years of determined gradualism had been nothing short of "immense. It … created massive civilian casualties, millions of displaced Iraqi civilians, and [did] immense cumulative collateral damage. It gave ISIS years in which to entrench its positions in Mosul and Raqqa."[162] Concurrent Western media reports in close concert with that harsh judgment indicated that ISF officers had often voiced their own impatience with the excessive vetting of proposed air attacks that the previous administration had insisted on for far too long in prolonging the campaign's conduct—even though the ISF's commanders themselves were all but totally indifferent to the importance of minimizing innocent Iraqi civilian casualties.[163] It hardly helped, moreover, toward keeping Iraqi and Syrian infrastructure damage reduced to the lowest level possible in the most intense land battles that featured such a heavy use of indigenous nonprecision artillery against enemy fighters hunkered down in built-up areas, which General Deptula later frankly described as "insane."[164]

On balance, one observer who interviewed numerous U.S. Air Force airmen who had played key roles in the air war later wrote of their oft-expressed concern that the American rank and file on the home front still did not fully appreciate the "sheer scale and ultimate effectiveness of the American [air] attacks," calling the campaign's final outcome "one of the best stories of the young Trump administration." This observer rightly added: "While many of the battles were fought under Obama, Trump pursued the enemy relentlessly. He delegated decision-making to commanders in the field, they fought within the laws of war, and they prevailed. Trump promised to defeat ISIS, and he has delivered a tremendous victory."[165] In light of that clear endgame achievement by the coalition's air assets at long last, perhaps had appropriately placed Air Force airmen at all levels both in CENTCOM and in the Pentagon been more successful in pressing for a smarter way of bringing airpower directly

to bear on the nation's latest combat challenge from the campaign's opening moments onward, as Maj. Gen. Charles Link, USAF (Ret.), later suggested, "we might have been able … to prevent ISIS from graduating from junior varsity to major adversary status."[166]

Conclusion

In looking back over the ultimately successful but also suboptimal initial experience of Operation Inherent Resolve, one must first never lose sight of the overarching and enduring fact, as a *Wall Street Journal* editorial rightly recalled in reflecting on that more than four-year-long effort, that the prolonged and costly campaign "would not have been needed [in the first place] if the Obama administration hadn't left the region prematurely." Once the rising threat of ISIS finally reached a point where the administration felt it had no choice but to address the situation militarily, the journal went on to say, the president's response was "agonizingly slow [to get under way] in part because Mr. Obama didn't want to echo George W. Bush by sending [in] more than token U.S. forces."[1] After the last remaining ISIS diehards were driven out of their final redoubt in the Syrian town of Baghouz in late March 2019, CENTCOM's commander, Gen. Joseph Votel, USA, cited the billions of American dollars spent and "tens of thousands" of allied fighters' lives lost in that campaign and added, in a sage concluding reflection on it all: "I think that the lesson learned from that is we really have to be very careful when we step away from our interests, and if we try to do it too quickly—that's the cost."[2]

After duly acknowledging that clear and inexcusable occasioning failure, one must frankly concede, in all fairness to Obama, that there was nothing wrong in principle with his declared starting-out goal of "degrading and ultimately defeating" ISIS. Yet, as the preceding assessment has sought to argue and defend beyond a reasonable doubt, there was virtually *everything* wrong with the way in which both he and CENTCOM first chose to pursue that worthy objective once the actual planning for their initial course of action got under way. To recapitulate in a nutshell the point that matters most, CENTCOM should have begun its planning after having been tasked by President Obama in early August 2014 to take on ISIS by first assessing and understanding the movement for what it really was and then by regarding it—and by aggressively engaging it—as an embryonic would-be state, not as a resurrected Islamist insurgency, which it clearly was not by any relevant evaluative criteria. For its part, the White House

should also have willingly acceded to more permissive and fitting ROE for the initial enemy target attacks that would have been essential in order to make such a more appropriate strategy work.

As one acrid critic of the administration well expressed this important point a year into the campaign, “if Obama could take credit for putting the core of al-Qaeda ‘on the path to defeat’ … as he did at the National Defense University in May 2013, … then it becomes difficult for him to evade responsibility for the resurgence of jihadism in the two years since then,” all of which was further “compounded by [his administration’s] frequent and sometimes unaccountable incompetence in execution, most obviously in the efforts to defeat the Islamic State.”[3] Remarking later of this “woeful top leadership” in the administration and of the “myopic green-suit management” of CENTCOM’s unduly protracted effort against ISIS, the former secretary of the Air Force during that command’s standard-setting Operation Desert Storm in 1991 frankly concluded that “the word ‘feckless’ comes to mind.”[4] In a similar retrospective judgment, even Maj. Gen. Dana Pittard, USA (Ret.), who served as CENTCOM’s most senior ground commander in Baghdad at the start of OIR, later recalled how President Obama’s blithe dismissal of ISIS in early January 2014 as a “JV team … couldn’t have been further from the truth. More decisive action earlier on from the Obama administration in the form of supporting [the ISF] might have stopped ISIS from taking over nearly a third of Iraq by the summer of 2014.”[5]

A related misstep in CENTCOM’s initial goal setting was arguably its decision to secure Iraq first by tasking AFCENT to devote most of its daily air tasking order mission lines toward providing exclusive standby air “support” to a still not entirely combat-ready ISF instead of concurrently sending them also against the heart of ISIS’s core assets in Raqqa and elsewhere in Syria with the needed ISR backing immediately after having provided relief to the beleaguered Yazidis in northern Iraq in early August 2014. Such a more strategically oriented approach offering greater promise of earlier campaign returns should have begun by targeting ISIS’s contraband oil infrastructure and exposed lines of communication while they were still most exposed to precision attack from the air.

Then, having had every reason and opportunity to realize beforehand that CENTCOM’s combat response would be principally air-only until

friendly indigenous ground troops in Iraq and Syria could be duly mobilized and made ready to fight, an essential preparatory move that could easily—and, in the end, in fact did—take more than a year to make good on, Gen. Lloyd Austin III, CENTCOM's four-star U.S. Army commander, could have assigned his subordinate three-star air component commander to head up CJTF-OIR for at least the initial phase of the looming fight against ISIS. By selecting an Army three-star for that crucial posting instead, Austin preordained an inappropriate land-centric and Iraq-first approach to the campaign from the very outset in the form of an all-too-familiar COIN strategy that aimed, first and foremost, at resurrecting the ISF and restoring order and stability in Iraq, when its main focus should have been on deconstructing ISIS's capacity for collective action as quickly as possible. That ill-advised strategy choice further preordained that U.S. and coalition airpower would be tasked principally with providing wholly devoted "support" to still noncombat-ready Iraqi ground troops rather than used more effectively against ISIS's most life-sustaining strategic assets as the *supported* rather than *supporting* combat element. Had CENTCOM gone for the latter option from the campaign's opening moments, it could have targeted the most vital core of ISIS's infrastructure that enabled it to thrive and flourish as a de facto state. Instead, for far too long, it applied half measures against purely tactical pop-up targets of opportunity that were invariably a step behind the enemy's ever-changing moves until a belated White House determination to increase the pressure finally ramped up the campaign's intensity.

As a direct result of those flawed strategy choices, and after more than two years of sustained but greatly hampered aerial force employment against ISIS, U.S. and coalition airpower had *still* not been put to a full and proper test in the campaign as CENTCOM failed to undermine the continued livelihood of the would-be caliphate by applying its fullest potential toward achieving truly outcome-determining gains. Instead, by resorting to incremental half measures in support of no recognizable strategy or desired campaign timetable and endstate, the Obama administration and CENTCOM systematically squandered the overwhelming airpower advantage that the United States had steadily built up ever since the American combat role in Vietnam ended in early 1973. Worse yet, their persistent belief for months on end that such nonproductive

pinprick attacks would suffice allowed the nation's single greatest combat edge, which had amassed a proven record of effectiveness going back to Operation Desert Storm in 1991, to receive an undeserved bad rap in the eyes of many as was well attested by all who continued to insist wrongly throughout the campaign's first year that airpower in a leading combat role could not offer an effective answer to the challenge at hand.

As for the exorbitant costs that were exacted by those initial missteps in leadership and strategy choice, the war's prolonged evolution from August 8, 2014, through the end of May 2018, saw 75,769 strike sorties and 49,537 directly supporting tanker sorties flown to attack identified and approved ISIS targets in Iraq and Syria, along with 40,971 additional ISR sorties in all categories and 33,922 supporting airlift and airdrop sorties launched on behalf of OIR, for a grand total of slightly more than 200,000 air sorties flown throughout the campaign's conduct in all. As a telling reflection of the duration of most of those strike sorties and of the heavy aircrew workload they entailed, OIR further featured nearly 318,000 individual tanker hook-ups and inflight refuelings performed in support of AFCENT's air operations against ISIS.[6] Many of those sorties were totally wasted in terms of measurable combat returns on investment. They also imposed an unknowable but extraordinarily high toll on the remaining service life of the expensive and valuable platforms that conducted them.

As yet another telling measure of the excessive cost that had been exacted by the administration's and CENTCOM's needlessly prolonged and overly gradualist bombing effort against ISIS, the U.S. Air Force was finally forced to acknowledge in late 2016 that it was running disturbingly low on its inventory of PGMs due to the unexpectedly high utilization rate of such weapons against often low-value and strategically inconsequential ISIS targets. The Obama administration's continued insistence on zero civilian casualties up to that point in the war had meant that virtually every air-delivered weapon released against an ISIS aim point had to be precision guided. The U.S. Air Force's chief of staff at the time, General Welsh, frankly confessed during the preceding year that his service was expending such munitions at a rate "faster than we can replenish them." In 2016 alone, CENTCOM delivered between 2,000 and 3,000 PGMs each month against approved aim points in Iraq and Syria, for a total of nearly 20,000 that had been released in toto up to that point. That was in addition to the previous

year's total of nearly 28,700 dropped on Iraq and Syria without much strategic effect throughout the course of 2015.[7]

The needless prolongation of the air war by more than two years also exacted a high cost in other ways as well. In simple dollar terms, the Department of Defense estimated in September 2017 that the American defense establishment had spent a total of $14.3 billion in combating ISIS since the effort's onset three years before.[8] The campaign also saw nearly 85,000 expensive PGMs dropped on often less than vital enemy targets, a clearly profligate waste that roundly dramatized the opportunity costs of the undue and harmful reliance that all of the U.S. services have come to place on such weapons as a result of their now-proven accuracy. As a U.S. Air Force F-16 pilot who flew two combat rotations in OIR rightly pointed out in this regard, "in a major conflict, we will run out, period." Because modern cockpit aiming systems can deliver traditional nonprecision bombs with unprecedented accuracy, he added, "we need to be able to deliver unguided weapons accurately. We also need to be willing to advocate for their use on the correct targets and in the correct circumstances. That includes to our own Air Force leadership, who, in my experience, pushed back as much as did the Army leadership when we tried to get unguided Mk 82s loaded and used regularly in OIR."[9] Furthermore, as but one revealing measure of the rampant destruction that was left in the campaign's wake after the dust had settled from the four-year-plus effort just in Iraq alone, an assessment jointly conducted by analysts at the World Bank and in the Iraqi government determined that the war to defeat ISIS had caused as much as $45.7 billion in damage to the country's homes, power plants, schools, and other civilian infrastructure.[10]

Finally, but not least by any measure, there were the incalculable but monumental human costs that were imposed by the war's overly prolonged and pointless early incrementalism. Without seeking at this point to provide even a rough estimate of the number of innocent Iraqis and Syrians who were killed or wounded throughout the more than four-year-long campaign, the anemic start that President Obama insisted on at the effort's outset and sustained with no truly consequential escalation for two more years produced millions of displaced civilians and caused a profusion of noncombatant fatalities in both countries, most of them at the hands of ISIS marauders rather than as the result of any errant coalition bombs.

Fortunately, on the plus side, only fourteen U.S. military personnel were said to have lost their lives in direct or supporting combat action against ISIS since kinetic operations began in Iraq and Syria in August and September 2014, respectively.[11] As for another good-news report on the campaign's more encouraging side, by early February 2018, OIR had reportedly liberated more than 7.7 million inhabitants and 98 percent of the territory formerly held by ISIS in Iraq and Syria since the movement's rise starting in 2012.[12]

One notable side implication suggested by the war experience for future force planning by the U.S. Air Force was the potential virtue of the service's acquiring a dedicated inventory of at least a wing's worth of lower-cost light-attack aircraft like the AT-6 to conduct strike operations in relatively low-threat environments such as that encountered over Iraq in 2014, in which the enemy possessed no surface-to-air defenses that might threaten such a less expensive and sophisticated but otherwise equally capable aircraft that could have been just as effective against enemy targets on the ground. The use of the F-22 and other more cutting-edge aircraft in AFCENT's most recent operations over Syria was amply warranted by the presence of fourth-generation Russian fighters and highly capable Russian and Syrian SAM systems operating in the same battlespace. Over Iraq, however, the U.S. Air Force for more than four years in a row frittered away much of the limited remaining service life of its costly fighters and bombers flown in the campaign that could have been saved to meet possible future needs against a more challenging near-peer opponent had a less costly light-attack alternative aircraft been available. Said one experienced former U.S. Air Force airman on this count, using an advanced fourth-generation fighter like an F-15E to take out a single ISIS gun position was tantamount to "using a Rolex to drive a nail."[13]

To underscore the commonsense appeal of the case for the U.S. Air Force's acquiring a reasonable number of relatively inexpensive light-attack aircraft for any future need like the one that figured in AFCENT's most recent air war against ISIS, consider this observation by an experienced F-15E pilot recalling a combat mission he led over Iraq in May 2017:

> Yesterday my two-ship cost the American taxpayer $240,000 just to put it into the air for a six-hour mission. That doesn't include the cost of the base we operate out of, the tankers we got our fuel

> from, or the base they operate out of. We dropped a single $50,000 laser JDAM to kill two ISIS fighters manning a DShK [machine gun emplacement]. With an AT-6 or A-29, that $240,000 drops (using the T-6 cost per hour doubled) to $36,000, for a conservative savings of $200,000. That doesn't count the savings of not needing tanker support…. By my math, you would save enough money in a six-month deployment of AT-6s versus F-15Es to pay for the entire squadron of AT-6s at $20 million apiece. I think it is a compelling argument.[14]

To address this concern the U.S. Air Force in 2017 initiated an OA-X competition featuring a live flyoff between the AT-6 Wolverine and A-29 Super Tucano to determine which of the two aircraft might offer the better alternative for potential employment in any future strike operations in relatively unthreatened enemy airspace.[15] The flight-test phase of that competition was later suspended temporarily after one of the A-29s operating out of Holloman AFB, New Mexico, on June 22, 2018, departed from controlled flight and crashed after making a hard turn at low altitude, killing the pilot.[16] Early the following year the Air Force announced that it had halted the OA-X program's flight testing indefinitely before its originally scheduled end as the service's leaders considered alternative next steps for the initiative, including possibly broadening its scope and allowing additional types of aircraft to enter the competition.[17]

To be sure, whatever source-selection decision the Air Force may ultimately make for a prospective OA-X acquisition, one must also frankly acknowledge the most persuasive argument against any such buy in more than modest numbers, which has long centered on the fact that such permissive airspace is becoming an increasingly rare commodity around the world as a result of the growing proliferation of highly lethal surface-to-air missile capabilities in the hands of otherwise seemingly primitive third world upstarts like ISIS.[18] Yet another important cautionary note lies in the fact that at least *some* higher-performance aircraft will always be needed in such tactical situations with the needed airspeed and service-ceiling capability for arriving at assigned targets quickly enough to meet the needs of often real-time emergency CAS and at a sufficient altitude and standoff range to mitigate surface-to-air threats and to avoid spooking the target by the sound and sight of their presence and forcing it into just-in-time hiding.

Both important points duly noted, however, by one well-informed account, the continued development and eventual acquisition of a future light-attack aircraft by the U.S. Air Force remains an essential option for the service to pursue in order to correct a serious "mismatch between available capacity and demand." Most of that service's current combat aircraft inventory consists of F-15s, F-16s and B-1s that were largely procured during the 1970s and 1980s. These aircraft are likely to be increasingly nonsurvivable in future high-end operations against technologically advanced peer or near-peer opponents, and they are gradually being supplemented by new stealthy fifth-generation F-35 multirole strike fighters and by the prospective acquisition of the second-generation B-21 follow-on stealth bomber. However, they clearly entail overkill and also are prohibitively expensive when used against nonstate opponents in lower air-threat regions of the world. Accordingly, by this considered argument, "the Air Force must effectively address the threat posed by nonstate actors but not derail essential modernization for highend warfighting. Light-attack aircraft … with low procurement cost and operating expenses provide a solution."[19] Indicating at least a clear first step in that direction, it was later reported that the U.S. Air Force had formally committed itself to acquiring two or three AT-6s and A-29s to support "allied and partner capacity, capability and interoperability via training and experimentation," with the AT-6s to go to Air Combat Command's Nellis AFB, Nevada, for "continued testing and development of operational tactics and standards for exportable tactical networks that improve interoperability with international partners" and the A-29s going to Air Force Special Operations Command at Hurlburt Field, Florida, for use in developing "an instructor pilot program for the Combat Aviation Advisory mission."[20]

Viewed in retrospect, despite its slow and ineffectual start by having been ill-conceived and suboptimally conducted principally as an air-supported *land* war with no combat-ready indigenous friendly land forces in immediate urgent need of such support, OIR turned out, in the end, to have been a successful exercise in joint and combined force employment in which consistently effective U.S. and coalition air assets ultimately overwhelmed ISIS with an invincible monopoly of asymmetric aerial firepower, thereby ensuring that well-endowed and motivated Iraqi and anti-Assad Syrian ground troops, supported by effective U.S. SOF teams

and JTACs, would ultimately crush the once-formidable jihadist movement. In that important respect, the campaign was much of a piece with the far briefer but equally successful three-month-long major combat phase of Operation Enduring Freedom against al-Qaeda and the ruling Taliban in Afghanistan at the end of 2001. In that regard, a well-credentialed reporter who visited the CAOC for a close look at that effort in 2017 wrote afterward that the war's "real story [rather than boots on the ground] is wings in the air," through which "massive conventional airpower [was] married to unconventional [U.S. and allied] special forces, who are advising the Iraqi army that is actually doing the ground fighting."[21]

In that same spirit, even the U.S. Army two-star who had been CENTCOM's most senior commander on the ground in Iraq at the start of OIR, along with his lead JTAC in CJOC-B, later freely acknowledged this indispensable role of the coalition's air assets in occasioning the eventual crushing of the would-be ISIS caliphate. As they later wrote approvingly in their retrospective account of the early campaign experience from their ground-up perspective, "an old military adage states that 'artillery is the king of the battlefield, while infantry is queen'…. [But that adage] was coined far before the days of airpower. An entirely new player in the game of chess that is war, airpower is both far-reaching and devastating. In the war against ISIS, it was the combination of airpower and ground forces provided by the Iraqi military, Kurdish Peshmerga, Shia militias, Syrian Kurds, and other entities that would eventually defeat ISIS."[22]

This was, moreover, exactly as it should have been in the end, just as it might also have been from the campaign's very start had CENTCOM's leaders chosen to understand ISIS for what it really was and to exploit the command's air component to the fullest degree, at least at the campaign's outset, as its *supported* rather than *supporting* combat element for most effectively engaging its latest enemy of the moment. With the radically transformed all-weather precision target-attack capability of today's American air posture, as Phillip Meilinger has rightly observed, it should never be a campaign planner's goal "to deliberately deploy large numbers of [friendly ground troops] to within range of enemy guns if an alternative is available."[23] However, even leaving aside Meilinger's on-target observation, Gen. Andrew Croft also rightly remarked that in any event from his own perspective as a senior AFCENT representative to CJTF-OIR,

“I believe this is our finest hour. I don’t think I’ve ever seen a more effective air campaign, with not really that large of a force, [ultimately] enable a ground force to defeat a brutal enemy.”[24] An official U.S. Army after-action assessment likewise concluded not long thereafter that the more than four-year-long campaign once again featured key aspects of a new form of American warfare that had first been pioneered in Afghanistan in 2001, in which “most ground combat is done by indigenous forces, with Americans providing advisers and firepower [or, more correctly and honestly put, airpower].”[25]

This was not the first time, it also should be remembered, that the United States found itself engaged in a campaign that got off on the wrong foot with such unhelpful incrementalism and an inappropriate initial guiding concept before it finally proved to be successful in the end. A decade and a half before the rise of ISIS in an ungoverned part of war-torn Syria, the administration of President Bill Clinton and NATO’s nineteen member states likewise dithered aimlessly by conducting only limited air strikes at first in response to Serbian human rights abuses against ethnic Albanians at the start of Operation Allied Force in support of beleaguered Kosovo in 1999. Only after the most important urban-industrial and financial targets in Belgrade were finally struck with full force toward the end of that also unduly prolonged seventy-eight-day effort was Serbian strongman Slobodan Milosevic ultimately driven to end his atrocities against innocent Kosovar civilians.[26] After that war ended, Adm. Leighton Smith, USN, a combat aviator who had previously served as the commander of Allied Forces Southern Europe, called the campaign “possibly the worst way we employed our military forces in history.”[27] In a similar vein, former U.S. Air Force chief of staff Gen. Ronald Fogleman aptly added that “just because it comes out reasonably well … doesn’t mean it was conducted properly. The application of air power was flawed.” For his part, Lt. Gen. Michael Short, USAF, the air component commander for U.S. European Command who oversaw NATO’s air war for Kosovo but had no say whatever in determining its overarching strategy, remarked afterward: “We could have done this differently. We should have done this differently.”[28] Each of those informed judgments regarding the badly flawed conduct of NATO’s Operation Allied Force until its very end could as well be applied without a word’s change to the ill-advised way in which the

Obama administration and CENTCOM pursued their war against ISIS during its first two years.

In all, from an overall strategic perspective, CENTCOM's ultimately successful but also needlessly prolonged OIR was oxymoronic in both concept and execution throughout its first two largely ineffectual years. True enough, the campaign did achieve its avowed goal in the end when coalition airpower, in concert with effective indigenous anti-ISIS ground troops in Iraq and Syria and enabled, at long last, by embedded American SOF teams and JTACs, finally reduced the former ISIS behemoth to just a few remaining pockets of isolated resistance in both countries. That performance offered a compelling testament to the intrinsic leverage of today's American air posture once freed from the shackles imposed by ill-advised leadership directives, in this case an inappropriate gradualist strategy at the campaign's start that misunderstood the enemy and wrongly insisted on ROE intended for a different kind of war.

In that respect, the OIR campaign experience also reminded us once again—or at least should have reminded us—that even the most capable air posture imaginable can never be more effective than the strategy it seeks to underwrite. In this regard, the late renowned strategist Colin Gray summed up this bottom-line dictum of war perfectly when he wrote more than a decade before that for airpower's inherent advantage "to secure strategic results of value, it must serve a national and overall military strategy that is feasible, coherent, and politically sensible. If these basic requirements are not met, [then] airpower, no matter how impeccably applied tactically and operationally, will be employed as a waste of life, taxes, and, frankly, trust between the sharp end of [a nation's] spear and its shaft." Gray added that a nation's overall campaign strategy can be so dysfunctional that it "cannot be rescued from defeat by a dominant airpower, no matter how that airpower is employed."[29] That was precisely the situation that was created by the Obama administration's and CENTCOM's entirely preventable underemployment of U.S. and coalition air forces for more than two years until the effort was finally rescued by ensuing leadership decisions that padlocked unerringly on the campaign's most overarching goal and applied the right strategy and force mix toward achieving it as quickly as possible. *This* is the ultimate campaign teaching from OIR that we should all take greatest care never to forget.

NOTES

Chapter 1. Introduction

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